SONY®

4-199-270-**17** (1)

Network Camera

User's Guide

Software Version 1.7

Before operating the unit, please read this manual thoroughly
and retain it for future reference.

SNC-CH115/CH120/CH160/CH220/CH260
SNC-DH120/DH120T/DH160/DH220/DH220T/DH260
SNC-EB520/EM520/EM521
SNC-ZB550/ZM550/ZM551

IPELA
IPELA HYBRID
sloc™
Exmor™
HD

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Overview

Features

- SNC-CH115/CH120/CH160/CH220/CH260/DH120/DH120T/DH160/DH220/DH220T/DH260/ZB550/ZM550/ZM551 are for HD model. SNC-EB520/EM520/EM521 are for SD model.
- SNC-ZB550/ZM550/ZM551 are IPELA HYBRID-compatible cameras.
  These cameras features SLOC technology, which enables HD images and SD video images to be sent simultaneously over an IP network using just one coaxial cable.
- High-quality Full HD (1080P) real-time monitoring, up to 30 fps. (SNC-CH220/CH260/DH220/DH220T/DH260)
- High-quality HD (720P) live images from camera can be monitored at a maximum frame rate of 30 fps. (SNC-CH115/CH120/CH160/DH120/DH120T/DH160)
- Live images can be streamed in high-quality with maximum SXGA (1280 × 1024) image size. (SNC-CH115/CH120/CH160/CH220/CH260/DH120/DH120T/DH160/DH220/DH220T/DH260/ZB550/ZM550/ZM551)
- High quality real-time streaming, up to image size 1920 × 1440. (SNC-CH220/CH260/DH220/DH220T/DH260)
- Exmor CMOS sensor enables high-quality images for streaming.
- NR enables clearer images for streaming in the low lightness environment.
- Three video compression modes (video codecs) JPEG/MPEG4/H.264 are supported.
- Single codec mode and dual codec mode are available.
- Easy Focus enables easier focus adjustment when it is installed.
- Easy Zoom function enables remote adjustment of view angle after installation. (SNC-CH160/CH260/DH120/DH120T/DH160/DH220/DH220T/DH260/EM520/EM521)
- Up to 5 users can view images from one camera at the same time.
- Date/time can be superimposed on the image.
- PoE (Power over Ethernet) compliant. (SNC-CH115/CH120/CH160/CH220/CH260/DH120/DH120T/DH160/DH220/DH220T/DH260/EB520/EM520/EM521)
- Compatible with AC 24V/DC 12V. (SNC-ZB550/ZM550/ZM551)

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How to Use This User's Guide

This User's Guide explains how to operate the Network Camera from a computer.
The User's Guide is designed to be read on the computer display.
This section gives tips on making the most of the User's Guide-read it before you operate the camera.

Jumping to a related page

When you read the User's Guide on the computer display, you can click on a sentence to jump to a related page.

Software display examples

Note that the displays shown in the User's Guide are explanatory examples. Some displays may be different from the ones that appear in actual use.
The illustrations of the camera and menu display in the User's Guide show the SNC-CH120 as an example.

Printing the User's Guide

Depending on your system, certain displays or illustrations in the User's Guide, when printed out, may differ from those that appear on your screen.

Installation Manual (printed matter)

The supplied Installation Manual describes the names and functions of parts and controls of the Network Camera, connection examples, and how to set up the camera. Be sure to read the Installation Manual before hand.

System Requirements

The following computer environment is necessary for the computer to display images and the controls of the camera.
(August 2012)

Common

OS

Microsoft Windows XP, Windows Vista (32bit version only), Windows 7 (32-bit version, 64-bit version)
Authorized editions:
  Windows XP: Professional
  Windows Vista: Ultimate, Business
  Windows 7: Ultimate, Professional

Microsoft DirectX 9.0c or higher

Web Browser

Windows Internet Explorer Ver. 6.0, Ver. 7.0, Ver. 8.0, Ver. 9.0
Firefox Ver.3.5 (Plug-in free viewer only)
Safari Ver.4.0 (Plug-in free viewer only)
Google Chrome Ver.4.0 (Plug-in free viewer only)

SNC-CH115/CH120/CH160/DH120/DH120T/DH160/EB520/EM520/EM521/ZB550/ZM550/ZM551

CPU

Intel Core 2 Duo, 2 GHz or higher

Memory

1 GB or more

Display

1600 × 1200 pixels or higher

SNC-CH220/CH260/DH220/DH220T/DH260

CPU

Intel Core 2 Duo, 2.33 GHz or higher

Memory

2 GB or more

Display

1600 × 1200 pixels or higher (2560 × 1600 pixels or higher is recommended)

Preparation

The Preparation section explains what the administrator has to prepare for monitoring images after installation and connection of the camera.

Assigning the IP Address to the Camera

To connect the camera to a network, you need to assign a new IP address to the camera when you install it for the first time.

Before starting, connect the camera, referring to “Connecting the Camera to a Local Network” in the supplied Installation Manual.
Consult the administrator of the network about the assigned IP address.

Notes

- SNC toolbox may not operate correctly if you use a personal firewall or antivirus software in your computer. In this case, disable the software.
- If you are using Windows XP Service Pack 2 or later, Windows Vista or Windows 7, disable the Windows Firewall function. Otherwise SNC toolbox will not operate correctly. For the setting, see “Configuring Windows Firewall” in “When using Windows XP Service Pack 2 or later” on page 9, “Configuring Windows Firewall” in “When using Windows Vista” on page 12 or “Configuring Windows Firewall” in “When using Windows 7” on page 14.

Assigning an IP address using SNC toolbox

1 Insert the CD-ROM in your CD-ROM drive.
A cover page appears automatically in your Web browser.
If it does not appear automatically in the Web browser, double-click the index.htm file on the CD-ROM.

When you are using Windows Vista, the “Auto play” pop-up may appear. For details, see “Installing software” in “When using Windows Vista” on page 10.

2 Click the **Setup** icon of **SNC toolbox**.
The “File Download” dialog opens.

When you are using Windows XP Service Pack 2 or later, Windows Vista or Windows 7, a message regarding the active contents may appear. For details, see “Installing software” in “When using Windows XP Service Pack 2 or later” on page 8, “Installing software” in “When using Windows Vista” on page 10 or “Installing software” in “When using Windows 7” on page 13.

3 Click **File Open**.

Note

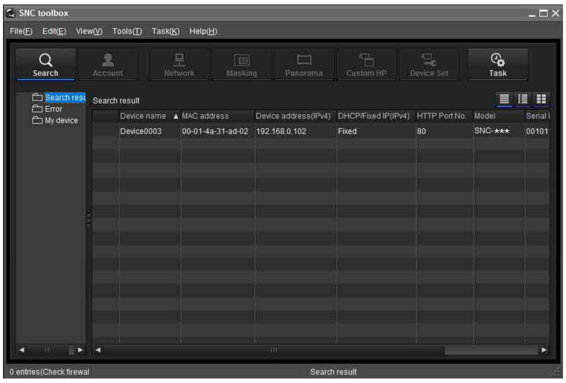
If you click **Save** on the “File Download” dialog, you will not be able to perform set up correctly. Delete the downloaded file, and click the **Setup** icon again.

4 Install SNC toolbox on your computer using the wizard.
If the Software License Agreement is displayed, read it carefully and click **Accept** to continue with the installation.

5 Start SNC toolbox.

When you are using Windows Vista, the message “User Account Control – An unidentified program wants access to your computer” may appear. In this case, click “Allow”.

6 Click **Search**.
SNC toolbox detects the network cameras connected to the local network and lists them.



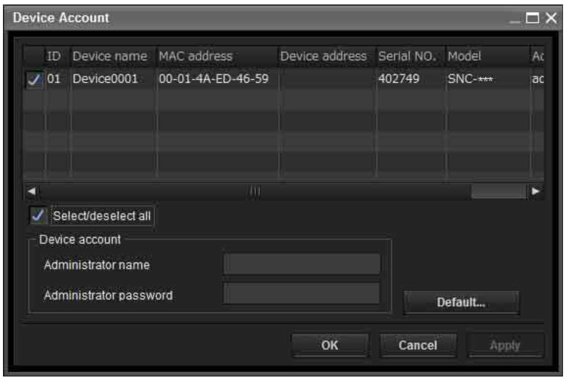
Search result

Device name	MAC address	Device address(IPv4)	DHCP/Fixed IP(IPv4)	HTTP Port No.	Model	Serial
Device0003	00-01-4a-31-ad-02	192.168.0.102	Fixed	80	SNC-***	00101

Tip

The factory setting of the camera network is DHCP mode.

7 Select a camera you want to assign an IP address from the list and click **Network**.
The account settings screen is displayed.



	ID	Device name	MAC address	Device address	Serial NO.	Model	Ac
☑	01	Device0001	00-01-4A-ED-46-59		402749	SNC-***	ac

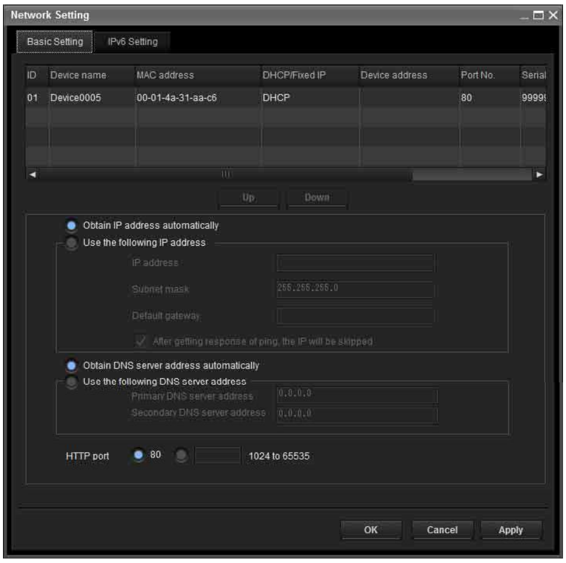
☑ Select/deselect all

Device account

Administrator name

Administrator password

8 Register the name and password of the administrator and click **OK**.
The factory settings for both items are “admin”.
The **Network Setting** screen is displayed.



ID	Device name	MAC address	DHCP/Fixed IP	Device address	Port No.	Serial
01	Device0005	00-01-4a-31-aa-c6	DHCP		80	9999

● Obtain IP address automatically
○ Use the following IP address
IP address
Subnet mask 255.255.255.0
Default gateway
☑ After getting response of ping, the IP will be skipped
● Obtain DNS server address automatically
○ Use the following DNS server address
Primary DNS server address 0.0.0.0
Secondary DNS server address 0.0.0.0
HTTP port ● 80 ○ 1024 to 65535

9 Set the IP address.

To obtain the IP address automatically from a DHCP server:
Select **Obtain an IP address automatically**.
The IP address, Subnet mask and Default gateway are assigned automatically.

Note

When you select **Obtain an IP address automatically**, make sure that the DHCP server is operating on the network.

To specify the IP address manually:
Select **Use the following IP address**, and type the IP address, Subnet mask and Default gateway in the relevant boxes.

10 Set the DNS server address.

To obtain the DNS server addresses automatically:
Select **Obtain DNS server address automatically**.

To specify the DNS server addresses manually:
Select **Use the following DNS server address**, and type the Primary DNS server address and Secondary DNS server address in the relevant boxes.

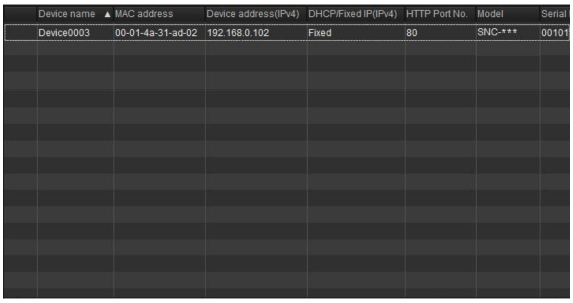
11 Set the HTTP port No.
Normally, select **80** for the HTTP port No. To use another port number, type a port number between 1024 and 65535 in the text box.

Note

When using a port number other than **80**, check with the network administrator first.

12 Confirm that all items are correctly set, then click **OK**.
If “Setting OK” is displayed, the IP address is correctly assigned.

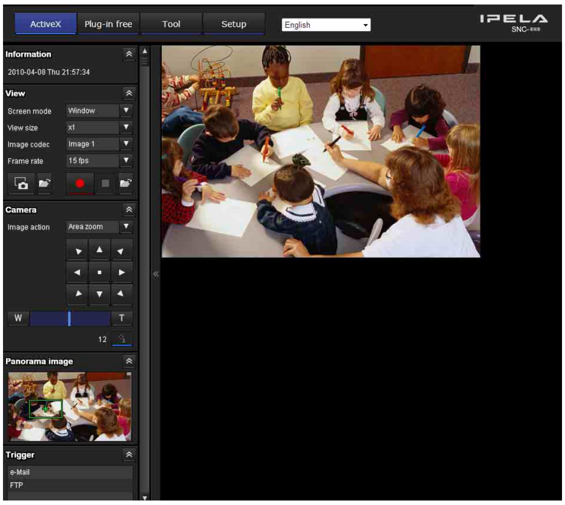
13 When setting is finished, to access the camera directly, double-click the device name in the list.



Device name ▲	MAC address	Device address(IPv4)	DHCP/Fixed IP(IPv4)	HTTP Port No.	Model	Serial
Device0003	00-01-4a-31-ad-02	192.168.0.102	Fixed	80	SNC-***	00101

The viewer screen of the network camera is displayed on the Web browser.

Display sample


ActiveX
Plug-in free
Tool
Setup
English
IPELA
SNC-***
Information
View
Camera
W
T
12
Panorama image
Trigger
e-Mail
FTP

2010-04-08 Thu 21:57:34

Screen mode: Window

View size: x1

Image codec: Image 1

Frame rate: 15 fps

Image action: Area zoom

Note

If the IP address is not set correctly, the viewer does not appear after step 13. In that case, try to set the IP address again.

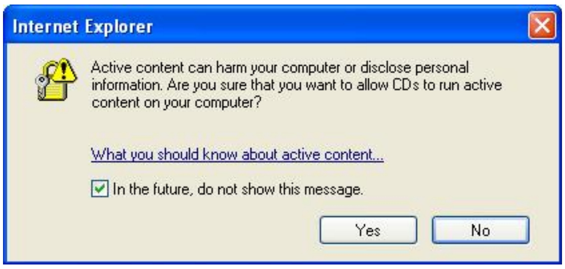
When using Windows XP Service Pack 2 or later

Installing software

A warning message regarding the active contents may appear when you install software such as SNC toolbox from CD-ROM. In this case, operate as follows:

Example: In case of SNC toolbox

If message "Internet Explorer" appears, click **Yes**.

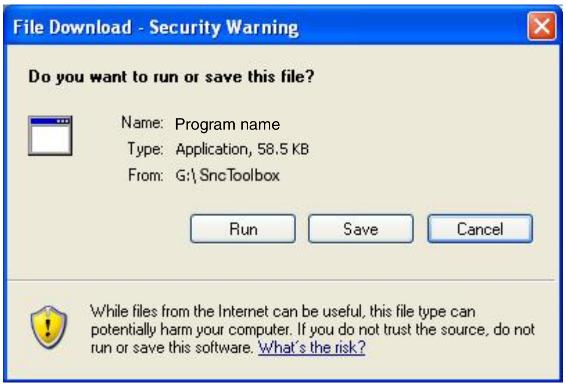

Internet Explorer
Yes
No

Active content can harm your computer or disclose personal information. Are you sure that you want to allow CDs to run active content on your computer?

What you should know about active content...

☑ In the future, do not show this message.

If the message "File Download – Security Warning" appears, click **Run**.


File Download - Security Warning
Run
Save
Cancel

Do you want to run or save this file?

Name: Program name

Type: Application, 58.5 KB

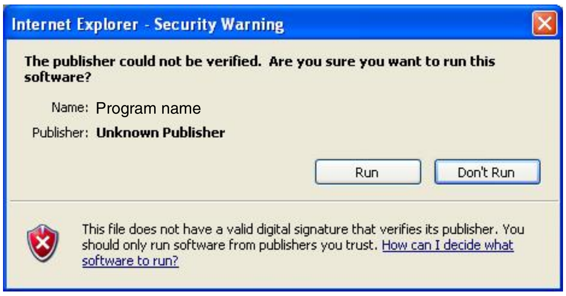
From: G:\SncToolbox

While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

Note

If you select **Save** in the "File Download – Security Warning" dialog, you will not be able to perform the installation correctly. Delete the downloaded file, and click the **Setup** icon again.

If the message "Internet Explorer – Security Warning" appears, click **Run**.


Internet Explorer - Security Warning
Run
Don't Run

The publisher could not be verified. Are you sure you want to run this software?

Name: Program name

Publisher: Unknown Publisher

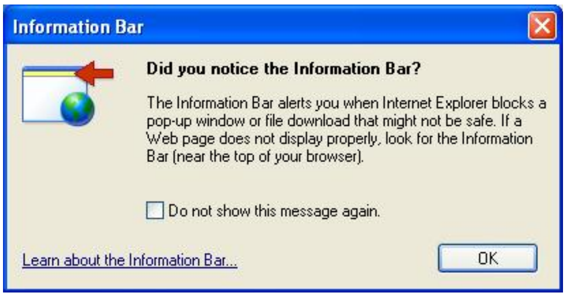
This file does not have a valid digital signature that verifies its publisher. You should only run software from publishers you trust. How can I decide what software to run?

The software installation starts.

Installing ActiveX Control

During installation of ActiveX Control, the "Information Bar" or "Security Warning" may appear. In this case, operate as follows:

If the message "Information Bar" appears, click **OK**.


Information Bar
OK

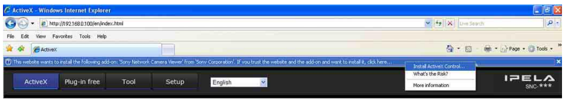
Did you notice the Information Bar?

The Information Bar alerts you when Internet Explorer blocks a pop-up window or file download that might not be safe. If a Web page does not display properly, look for the Information Bar (near the top of your browser).

☐ Do not show this message again.

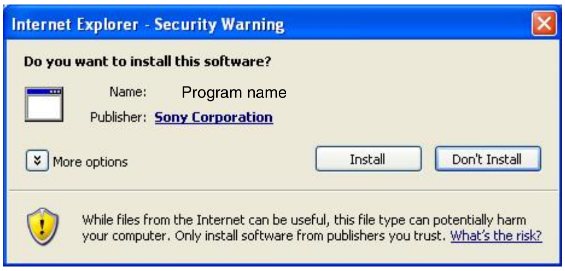
Learn about the Information Bar...

If the information bar appears, click on the bar and select **Install ActiveX Control…**.


ActiveX - Windows Internet Explorer
http://192.168.0.100/en/index.html
Live Search
File
Edit
View
Favorites
Tools
Help
ActiveX
Page
Tools
Install ActiveX Control...
What's the Risk?
More information
ActiveX
Plug-in free
Tool
Setup
English
IPELA
SNC-***

This website wants to install the following add-on: 'Sony Network Camera Viewer' from 'Sony Corporation'. If you trust the website and the add-on and want to install it, click here...

If "Internet Explorer – Security Warning" appears, click **Install**.


Internet Explorer - Security Warning
More options
Install
Don't Install
What's the risk?

Do you want to install this software?

Name: Program name

Publisher: Sony Corporation

While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust.

The installation of ActiveX Control starts. When installation is completed, the main viewer or the Motion detection menu appears.

Configuring Windows Firewall

SNC toolbox may not operate correctly depending on the configuration of Windows Firewall. (No cameras are shown in the list even if they are detected.) In this case, confirm the Windows Firewall configuration as follows:

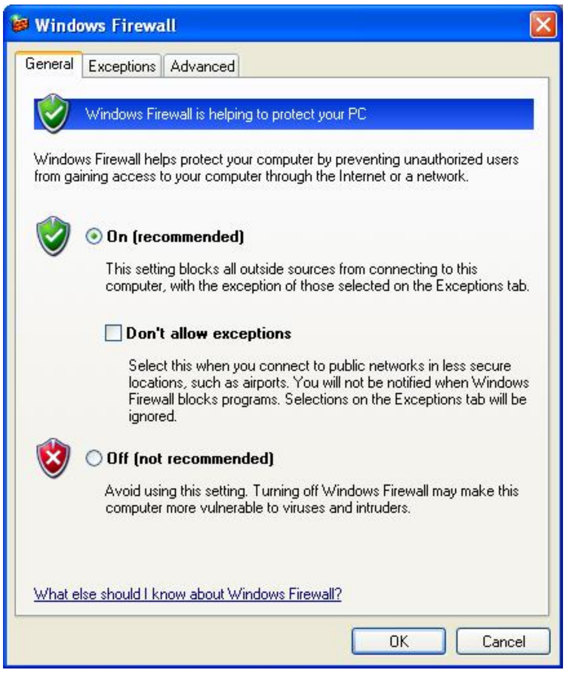
Example: In case of SNC toolbox

To turn Windows Firewall off

1 Select **Control Panel** from the **Start** menu of Windows.

2 Select **Security Center** of the working field.

3 Select **Off** in the Windows Firewall dialog.


Windows Firewall
General
Exceptions
Advanced
What else should I know about Windows Firewall?
OK
Cancel

Windows Firewall is helping to protect your PC

Windows Firewall helps protect your computer by preventing unauthorized users from gaining access to your computer through the Internet or a network.

○ **On (recommended)**

This setting blocks all outside sources from connecting to this computer, with the exception of those selected on the Exceptions tab.

☐ **Don't allow exceptions**

Select this when you connect to public networks in less secure locations, such as airports. You will not be notified when Windows Firewall blocks programs. Selections on the Exceptions tab will be ignored.

○ **Off (not recommended)**

Avoid using this setting. Turning off Windows Firewall may make this computer more vulnerable to viruses and intruders.

The camera will be displayed in the list.

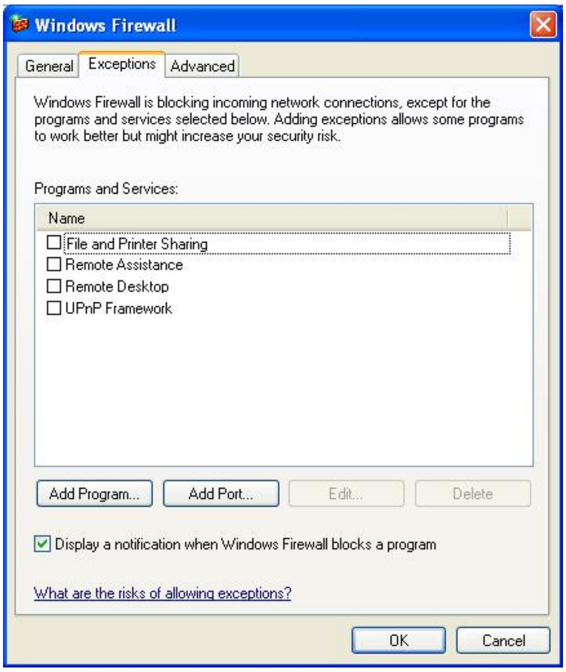
To turn Windows Firewall on

1 Select **Control Panel** from the **Start** menu of Windows.

2 Select **Security Center** of the working field.

3 Select **Exceptions** in the Windows Firewall dialog.

4 Click **Add Program…**.


Windows Firewall
General
Exceptions
Advanced
Add Program...
Add Port...
Edit...
Delete
What are the risks of allowing exceptions?
OK
Cancel

Windows Firewall is blocking incoming network connections, except for the programs and services selected below. Adding exceptions allows some programs to work better but might increase your security risk.

Programs and Services:

Name

☐ File and Printer Sharing

☐ Remote Assistance

☐ Remote Desktop

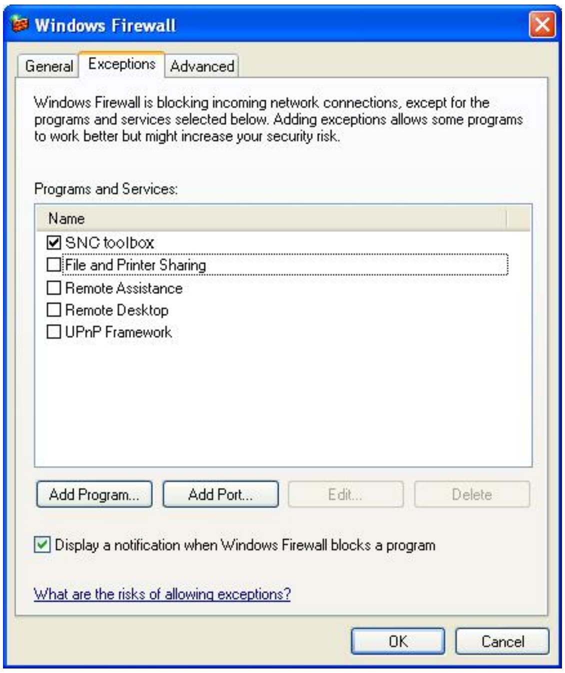
☐ UPnP Framework

☑ Display a notification when Windows Firewall blocks a program

5 In the Add Program dialog, select SNC toolbox and click **OK**.

SNC toolbox is added to the Programs and Services list.

6 Click **OK**.


Windows Firewall
General
Exceptions
Advanced
Add Program...
Add Port...
Edit...
Delete
What are the risks of allowing exceptions?
OK
Cancel

Windows Firewall is blocking incoming network connections, except for the programs and services selected below. Adding exceptions allows some programs to work better but might increase your security risk.

Programs and Services:

Name
- ☑ SNC toolbox
- ☐ File and Printer Sharing
- ☐ Remote Assistance
- ☐ Remote Desktop
- ☐ UPnP Framework

☑ Display a notification when Windows Firewall blocks a program

When the above procedure is completed, the camera connected in the local network are displayed in SNC toolbox.

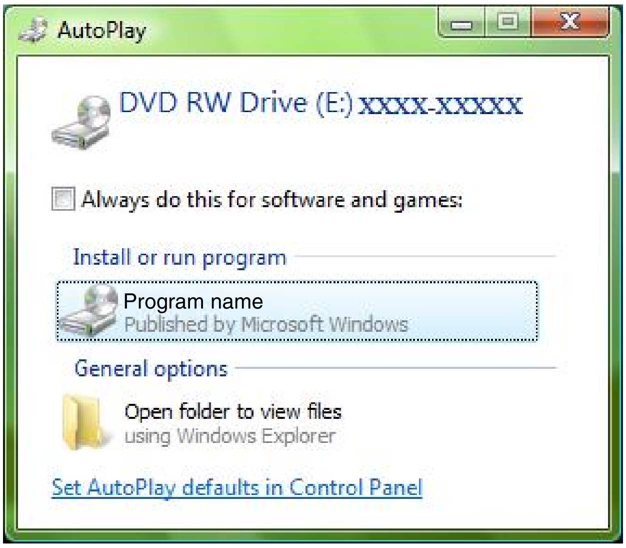
When using Windows Vista

Installing software

A warning message regarding the active contents may appear when you install software such as SNC toolbox from the CD-ROM. In this case, operate as follows:

Example: In case of SNC toolbox

If the pop-up “AutoPlay” appears when a CD-ROM is inserted into the CD-ROM drive, click **Install or run program**.

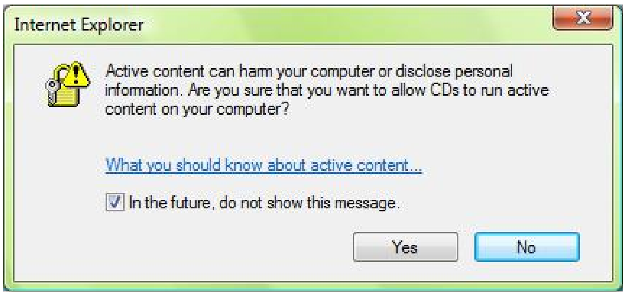

AutoPlay
DVD RW Drive (E:) XXXX-XXXXX
Install or run program
Program name
Published by Microsoft Windows
General options
Open folder to view files
using Windows Explorer
Set AutoPlay defaults in Control Panel

☐ Always do this for software and games:

Note

If you click **Open folder to view files**, the Web browser will not open automatically. In this case, double-click the “index.htm” file in the CD-ROM.

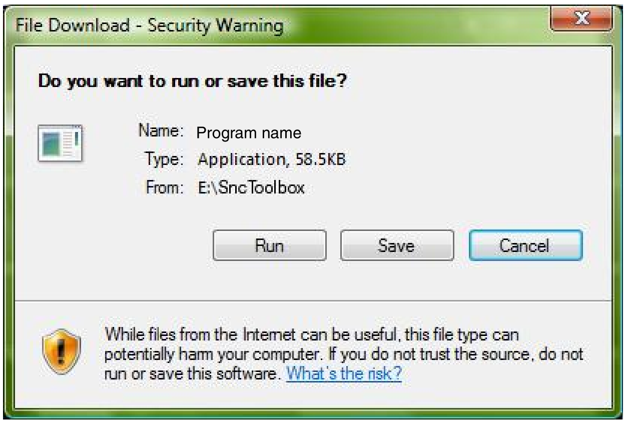
If the message “Internet Explorer” appears, click **Yes**.


Internet Explorer
What you should know about active content...
Yes
No

Active content can harm your computer or disclose personal information. Are you sure that you want to allow CDs to run active content on your computer?

☑ In the future, do not show this message.

If the message “File Download – Security Warning” appears, click **Run**.


File Download - Security Warning
Run
Save
Cancel
What's the risk?

Do you want to run or save this file?

Name: Program name

Type: Application, 58.5KB

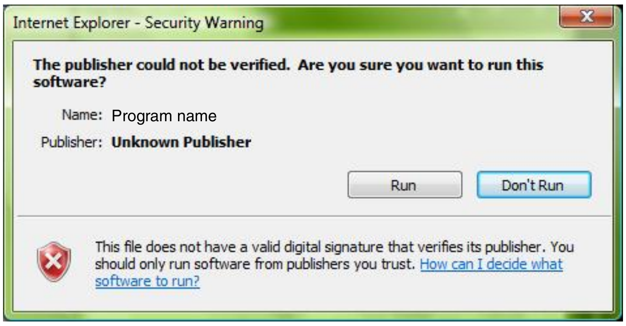
From: E:\SncToolbox

While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

Note

If you select **Save** in the “File Download – Security Warning” dialog, you will not be able to perform installation correctly. Delete the downloaded file, and click the Setup icon again.

If the message “Internet Explorer – Security Warning” appears, click **Run**.


Internet Explorer - Security Warning
Run
Don't Run
How can I decide what software to run?

The publisher could not be verified. Are you sure you want to run this software?

Name: Program name

Publisher: Unknown Publisher

This file does not have a valid digital signature that verifies its publisher. You should only run software from publishers you trust. How can I decide what software to run?

If the message “User Account Control – An unidentified program wants access to your computer” appears, click **Allow**.

The software installation starts.

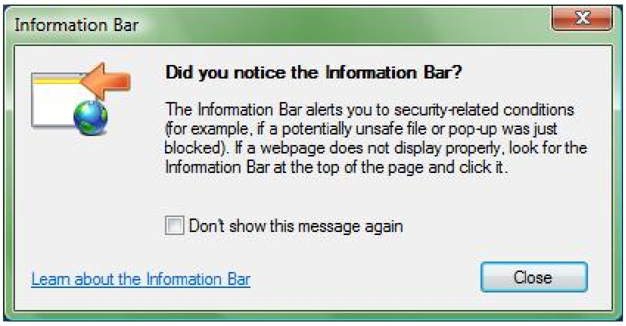
Starting the software

When you start software such as SNC toolbox, the message “User Account Control – An unidentified program wants access to your computer” may appear. In this case, click **Allow**.

Installing ActiveX Control

During installation of ActiveX Control, the information bar or “Security Warning” may appear. In this case, operate as follows:

If the message “Information Bar” appears, click **Close**.

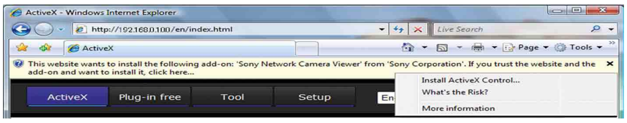

Information Bar
Close
Learn about the Information Bar

Did you notice the Information Bar?

The Information Bar alerts you to security-related conditions (for example, if a potentially unsafe file or pop-up was just blocked). If a webpage does not display properly, look for the Information Bar at the top of the page and click it.

☐ Don't show this message again

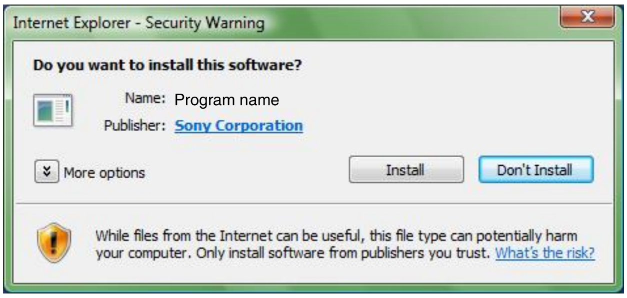
If the information bar appears, click on the bar and select **Install ActiveX Control…**.


ActiveX - Windows Internet Explorer
http://192.168.0.100/en/index.html
Live Search
ActiveX
Page
Tools
Install ActiveX Control...
What's the Risk?
More information
ActiveX
Plug-in free
Tool
Setup
En

This website wants to install the following add-on: 'Sony Network Camera Viewer' from 'Sony Corporation'. If you trust the website and the add-on and want to install it, click here...

If the message “User Account Control – Windows needs your permission to continue” appears, click **Continue**.

If “Internet Explorer – Security Warning” appears, click **Install**.


Internet Explorer - Security Warning
More options
Install
Don't Install
What's the risk?

Do you want to install this software?

Name: Program name

Publisher: Sony Corporation

While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

The installation of ActiveX Control starts. When installation is completed, the main viewer or the Motion detection menu appears.

When accessing with Windows Vista in SSL communications

ActiveX control may not function properly. In such a case, change the Internet Explorer settings.

1 Click Tool(T), Internet Option(O).

2 Select Security Tab.

3 Select **Trusted sites** in Security settings.

4 Click on **Sites(S)**.

5 Enter the address of the camera in **Add this Web site to the zone**. Be sure to add the protocol (https://).

6 Click **OK** to complete the setting.

Restart Internet Explorer when the above procedure is completed and access the camera.

Note

The model on sale in China does not support the SSL function.

Configuring Windows Firewall

SNC toolbox may not operate correctly depending on the configuration of Windows Firewall. (No cameras are shown in the list even if they are detected.) In this case, confirm the Windows Firewall configuration as follows:

Example: In the case of SNC toolbox

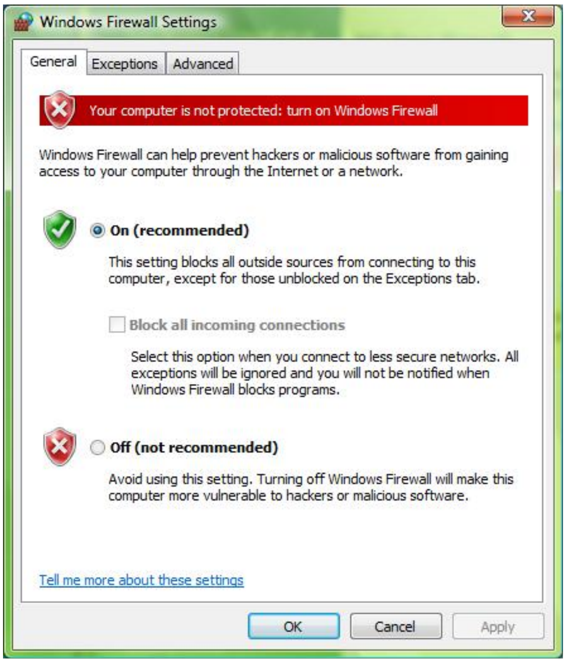
To turn Windows Firewall off

1 Select **Control Panel** from the **Start** menu of Windows.

2 Click **Windows Firewall**.

3 Select **Turn Windows Firewall on or off**.
"User Account Control – Windows needs your permission to continue" may appear. In this case, click **Continue**.

4 Select **Off** in the **General** tab.


Windows Firewall Settings
General
Exceptions
Advanced
Tell me more about these settings
OK
Cancel
Apply

Your computer is not protected: turn on Windows Firewall

Windows Firewall can help prevent hackers or malicious software from gaining access to your computer through the Internet or a network.

● On (recommended)

This setting blocks all outside sources from connecting to this computer, except for those unblocked on the Exceptions tab.

☐ Block all incoming connections

Select this option when you connect to less secure networks. All exceptions will be ignored and you will not be notified when Windows Firewall blocks programs.

○ Off (not recommended)

Avoid using this setting. Turning off Windows Firewall will make this computer more vulnerable to hackers or malicious software.

The cameras will be displayed in the list.

To turn Windows Firewall on

1 Select **Control Panel** from the **Start** menu of Windows.

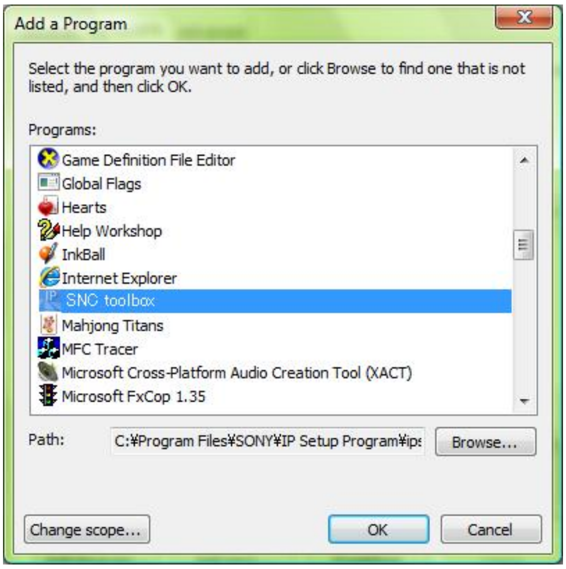
2 Click **Windows Firewall**.

3 Select **Turn Windows Firewall on or off**.
If the message "User Account Control - Windows needs your permission to continue" appears, click **Proceed**.

4 Select **Exceptions** in the Windows Firewall dialog.

5 Click **Add Program…**.

6 If the Add Program dialog appears, select SNC toolbox and click **OK**.

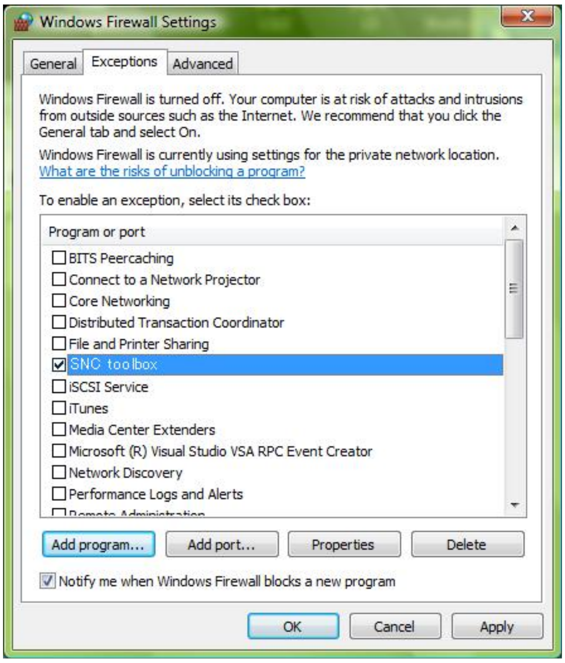

Add a Program
Programs:
Game Definition File Editor
Global Flags
Hearts
Help Workshop
InkBall
Internet Explorer
SNC toolbox
Mahjong Titans
MFC Tracer
Microsoft Cross-Platform Audio Creation Tool (XACT)
Microsoft FxCop 1.35
Browse...
Change scope...
OK
Cancel

Select the program you want to add, or click Browse to find one that is not listed, and then click OK.

Path: C:¥Program Files¥SONY¥IP Setup Program¥ip:

SNC toolbox is added to the Program or port list.

7 Click **OK**.


Windows Firewall Settings
General
Exceptions
Advanced
Add program...
Add port...
Properties
Delete
OK
Cancel
Apply

Windows Firewall is turned off. Your computer is at risk of attacks and intrusions from outside sources such as the Internet. We recommend that you click the General tab and select On.

Windows Firewall is currently using settings for the private network location.
What are the risks of unblocking a program?

To enable an exception, select its check box:

Program or port
- ☐ BITS Peercaching
- ☐ Connect to a Network Projector
- ☐ Core Networking
- ☐ Distributed Transaction Coordinator
- ☐ File and Printer Sharing
- ☑ SNC toolbox
- ☐ iSCSI Service
- ☐ iTunes
- ☐ Media Center Extenders
- ☐ Microsoft (R) Visual Studio VSA RPC Event Creator
- ☐ Network Discovery
- ☐ Performance Logs and Alerts

☑ Notify me when Windows Firewall blocks a new program

When the above procedure is completed, the cameras connected in the local network are displayed in SNC toolbox.

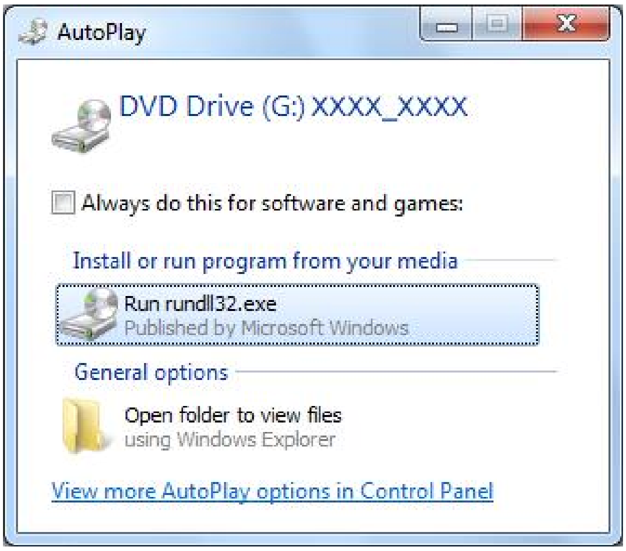
When using Windows 7

Installing software

A warning message regarding the active contents may appear when you install software such as SNC toolbox from the CD-ROM. In this case, operate as follows:

Example: In case of SNC toolbox

If the pop-up "AutoPlay" appears when a CD-ROM is inserted into the CD-ROM drive, click **Install or run program from your media**.

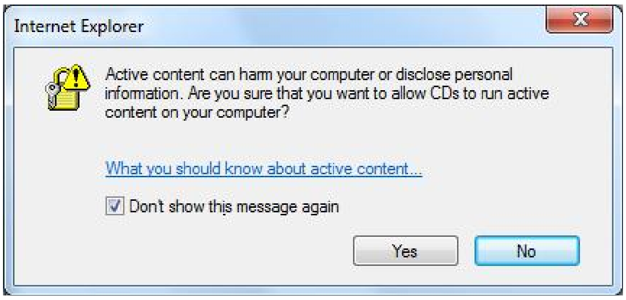

AutoPlay
DVD Drive (G:) XXXX_XXXX
Install or run program from your media
Run rundll32.exe
Published by Microsoft Windows
General options
Open folder to view files
using Windows Explorer
View more AutoPlay options in Control Panel

☐ Always do this for software and games:

Note

If you click **Open folder to view files**, the Web browser will not open automatically. In this case, double-click the "index.htm" file in the CD-ROM.

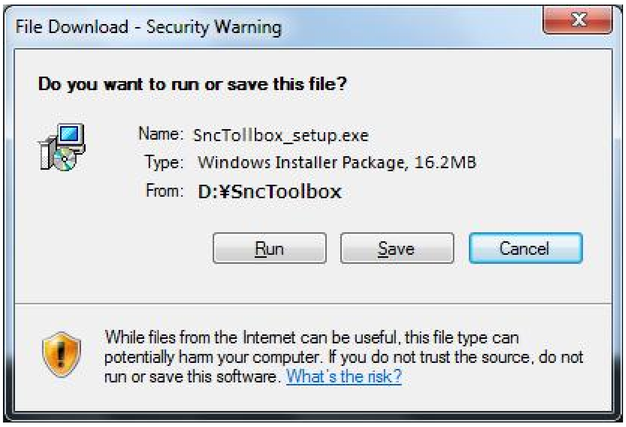
If the message "Internet Explorer" appears, click **Yes**.


Internet Explorer
What you should know about active content...
Yes
No

Active content can harm your computer or disclose personal information. Are you sure that you want to allow CDs to run active content on your computer?

☑ Don't show this message again

If the message “File Download - Security Warning” appears, click **Run**.


File Download - Security Warning
Run
Save
Cancel

Do you want to run or save this file?

Name: SncTollbox_setup.exe
Type: Windows Installer Package, 16.2MB
From: D:¥SncToolbox

While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. What's the risk?

Note

If you select **Save** in the “File Download - Security Warning” dialog, you will not be able to perform installation correctly. Delete the downloaded file, and click the Setup icon again.

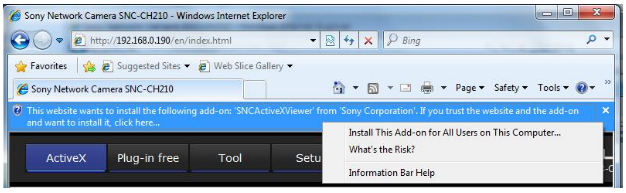
If the message “User Account Control - Do you want to allow the following program from an unknown publisher to make changes to this computer?” appears, click **Allow**.

The software installation starts.

Installing ActiveX Control

During installation of ActiveX Control, the information bar or “Security Warning” may appear. In this case, operate as follows:

If the information bar appears, click on the bar and select **Install This Add-on for All Users on This Computer...**.


Sony Network Camera SNC-CH210 - Windows Internet Explorer
http://192.168.0.190/en/index.html
Bing
Favorites
Suggested Sites
Web Slice Gallery
Sony Network Camera SNC-CH210
Page
Safety
Tools
ActiveX
Plug-in free
Tool
Setu
Install This Add-on for All Users on This Computer...
What's the Risk?
Information Bar Help

This website wants to install the following add-on: 'SNCActiveXViewer' from 'Sony Corporation'. If you trust the website and the add-on and want to install it, click here...

If the message “User Account Control - Do you want to allow the following program to make changes to this computer?” appears, click **Allow**.

The installation of ActiveX Control starts. When installation is completed, the main viewer or the Motion detection menu appears.

When accessing with Windows 7 in SSL communications

ActiveX control may not function properly. In such a case, change the Internet Explorer settings.
For details, refer to “When accessing with Windows Vista in SSL communications” (page 11).

Note

The model on sale in China does not support the SSL function.

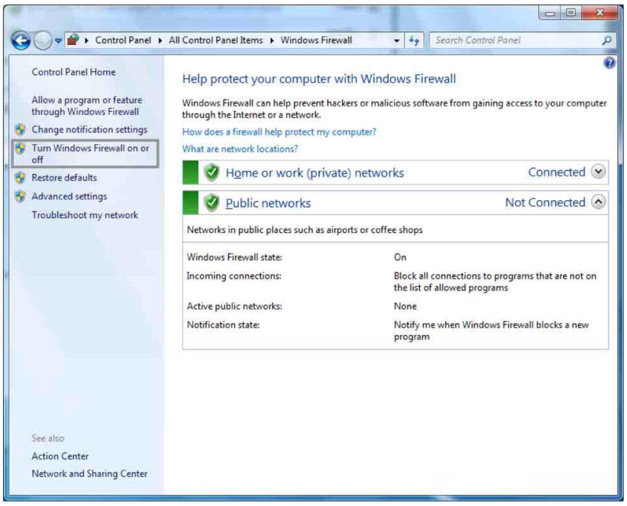
Configuring Windows Firewall

SNC toolbox may not operate correctly depending on the configuration of Windows Firewall. (No cameras are shown in the list even if they are detected.) In this case, confirm the Windows Firewall configuration as follows:

Example: In the case of SNC toolbox

To turn Windows Firewall off

1. Select **Control Panel** from the **Start** menu of Windows.
2. Click **Windows Firewall**.
3. Select **Turn Windows Firewall on or off**.


Control Panel
All Control Panel Items
Windows Firewall
Search Control Panel
Control Panel Home
Allow a program or feature through Windows Firewall
Change notification settings
Turn Windows Firewall on or off
Restore defaults
Advanced settings
Troubleshoot my network
See also
Action Center
Network and Sharing Center
How does a firewall help protect my computer?
What are network locations?

Help protect your computer with Windows Firewall

Windows Firewall can help prevent hackers or malicious software from gaining access to your computer through the Internet or a network.

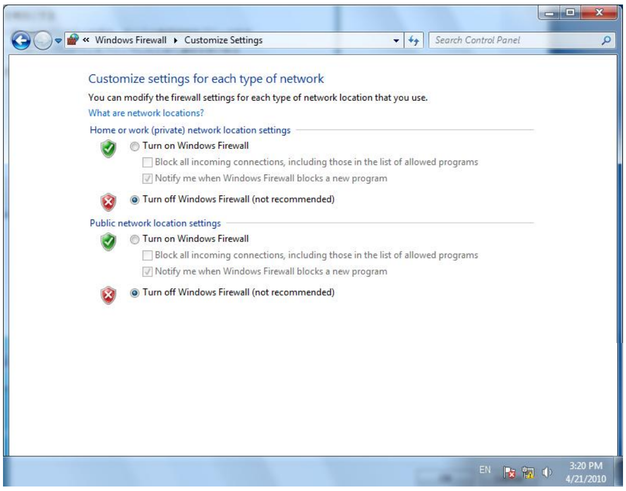
Home or work (private) networks: Connected

Public networks: Not Connected

Networks in public places such as airports or coffee shops

Windows Firewall state:	On
Incoming connections:	Block all connections to programs that are not on the list of allowed programs
Active public networks:	None
Notification state:	Notify me when Windows Firewall blocks a new program

4 Select **Disable Windows Firewall**.


« Windows Firewall ▸ Customize Settings
Search Control Panel
EN
3:20 PM
4/21/2010

Customize settings for each type of network

You can modify the firewall settings for each type of network location that you use.

What are network locations?

Home or work (private) network location settings

○ Turn on Windows Firewall

☐ Block all incoming connections, including those in the list of allowed programs

☑ Notify me when Windows Firewall blocks a new program

● Turn off Windows Firewall (not recommended)

Public network location settings

○ Turn on Windows Firewall

☐ Block all incoming connections, including those in the list of allowed programs

☑ Notify me when Windows Firewall blocks a new program

● Turn off Windows Firewall (not recommended)

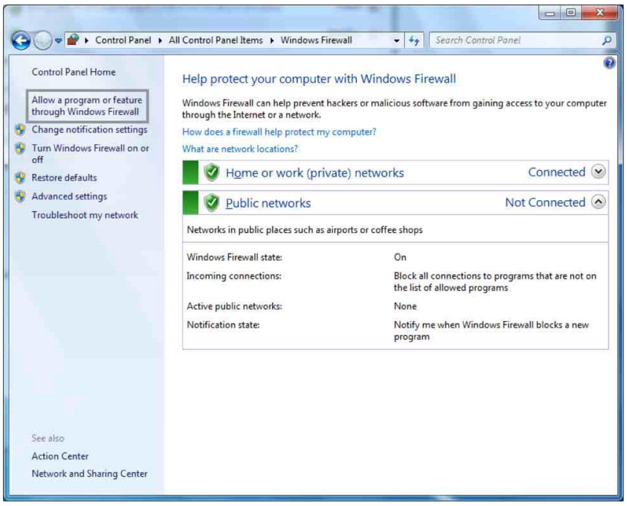
The cameras will be displayed in the list.

To turn Windows Firewall on

1 Select **Control Panel** from the **Start** menu of Windows.

2 Click **Windows Firewall**.

3 Select **Allow a program or feature through Windows Firewall**.


▸ Control Panel ▸ All Control Panel Items ▸ Windows Firewall
Search Control Panel
Control Panel Home
Allow a program or feature through Windows Firewall
Change notification settings
Turn Windows Firewall on or off
Restore defaults
Advanced settings
Troubleshoot my network
See also
Action Center
Network and Sharing Center

Help protect your computer with Windows Firewall

Windows Firewall can help prevent hackers or malicious software from gaining access to your computer through the Internet or a network.

How does a firewall help protect my computer?

What are network locations?

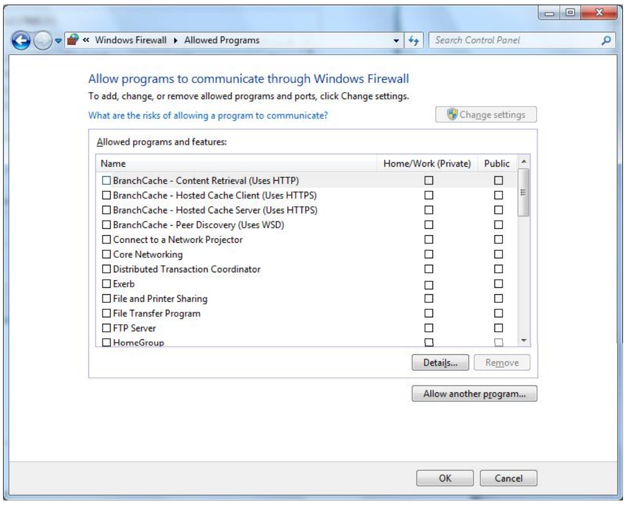
Home or work (private) networks — Connected

Public networks — Not Connected

Networks in public places such as airports or coffee shops

Windows Firewall state:	On
Incoming connections:	Block all connections to programs that are not on the list of allowed programs
Active public networks:	None
Notification state:	Notify me when Windows Firewall blocks a new program

4 Select **Allow another program...**.


« Windows Firewall ▸ Allowed Programs
Search Control Panel
Change settings
Details...
Remove
Allow another program...
OK
Cancel

Allow programs to communicate through Windows Firewall

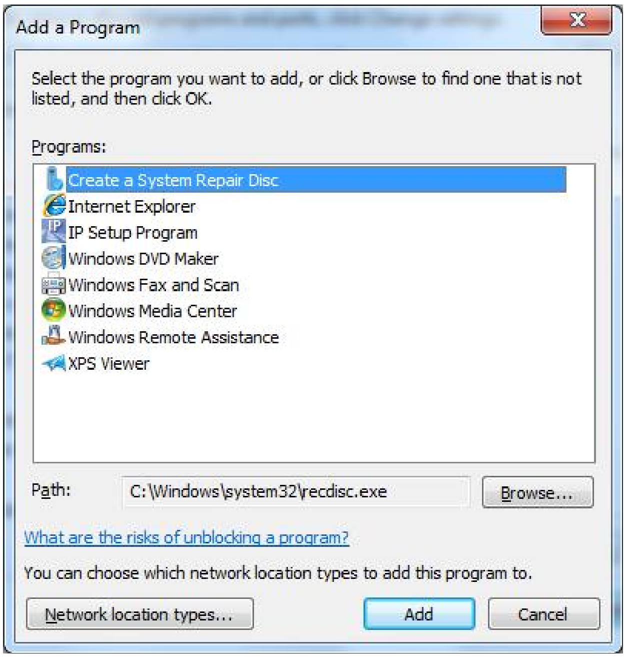
To add, change, or remove allowed programs and ports, click Change settings.

What are the risks of allowing a program to communicate?

Allowed programs and features:

Name	Home/Work (Private)	Public
☐ BranchCache - Content Retrieval (Uses HTTP)	☐	☐
☐ BranchCache - Hosted Cache Client (Uses HTTPS)	☐	☐
☐ BranchCache - Hosted Cache Server (Uses HTTPS)	☐	☐
☐ BranchCache - Peer Discovery (Uses WSD)	☐	☐
☐ Connect to a Network Projector	☐	☐
☐ Core Networking	☐	☐
☐ Distributed Transaction Coordinator	☐	☐
☐ Exerb	☐	☐
☐ File and Printer Sharing	☐	☐
☐ File Transfer Program	☐	☐
☐ FTP Server	☐	☐
☐ HomeGroup	☐	☐

5 Add program.


Add a Program
Network location types...
Add
Cancel
Browse...

Select the program you want to add, or click Browse to find one that is not listed, and then click OK.

Programs:

- Create a System Repair Disc
- Internet Explorer
- IP Setup Program
- Windows DVD Maker
- Windows Fax and Scan
- Windows Media Center
- Windows Remote Assistance
- XPS Viewer

Path: C:\Windows\system32\recdisc.exe

What are the risks of unblocking a program?

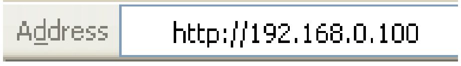
You can choose which network location types to add this program to.

When the above procedure is completed, the cameras connected in the local network are displayed in SNC toolbox.

Accessing the Camera Using the Web Browser

After the IP address has been assigned to the camera, check that you can actually access the camera using the Web browser installed on your computer.
Use Internet Explorer as a Web browser.

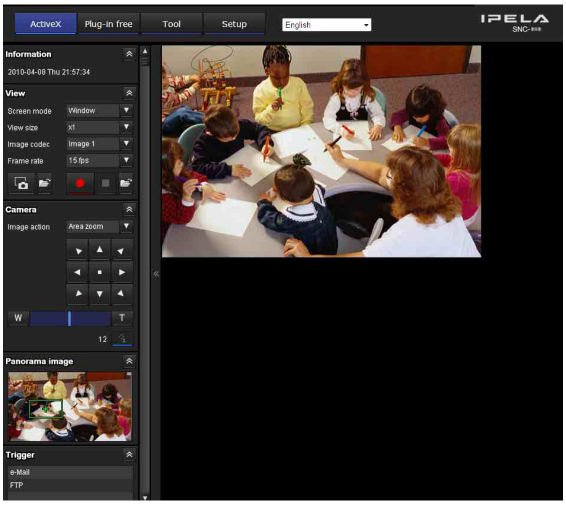
1 Start the Web browser on the computer and type the IP address of the camera in the URL address bar.



http://192.168.0.100

The viewer window is displayed.

Display sample


ActiveX
Plug-in free
Tool
Setup
English
IPELA
SNC-xxx
Information
View
Camera
Panorama image
Trigger
e-Mail
FTP
W
T
12

2010-04-08 Thu 21:57:34

Screen mode Window

View size x1

Image codec Image 1

Frame rate 15 fps

Image action Area zoom

Note

When accessing the camera, images will not be displayed in the following conditions.

- When the maximum number of viewers exceeds 5
  However, if the e-Mail (SMTP) function or the FTP client function is set to **On**, the maximum number of viewers will be 3.
- The bit rate including new requests exceeds 16Mbps
- Depending on the setup environment, video may become unclear even when being viewed by less than the maximum number of viewers. If this occurs, reduce the number of viewers, lower the bit rate, or decrease the size of the picture (SNC-ZB550/ZM550/ZM551).

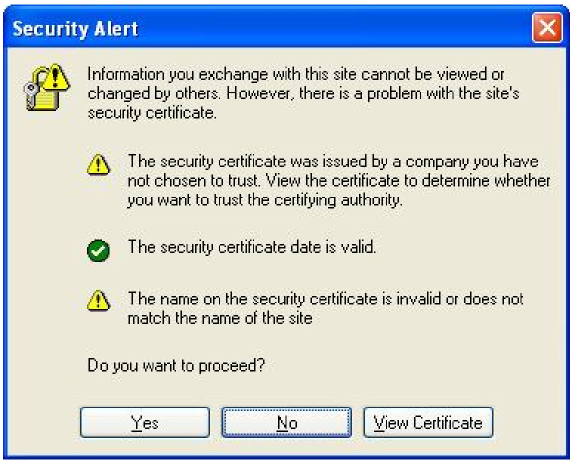
Using the SSL function

Note

The model on sale in China does not support the SSL function.

When Internet Explorer 6 is used

"Security Alert" dialog may appear according to the status of the certificate. In this case, click **Yes** to continue.
The viewer window is displayed (in SSL communication).


Security Alert
Yes
No
View Certificate

Information you exchange with this site cannot be viewed or changed by others. However, there is a problem with the site's security certificate.

The security certificate was issued by a company you have not chosen to trust. View the certificate to determine whether you want to trust the certifying authority.

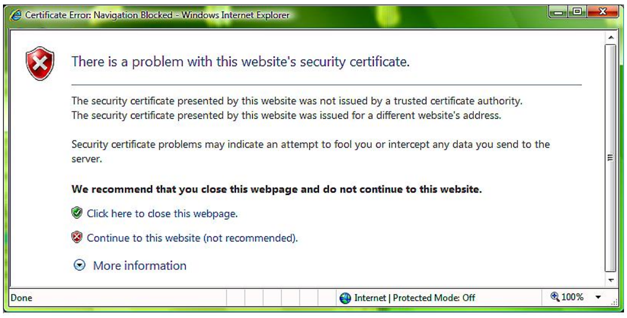
The security certificate date is valid.

The name on the security certificate is invalid or does not match the name of the site

Do you want to proceed?

When Internet Explorer 7, Internet Explorer 8 or Internet Explorer 9 is used

When you enter the camera IP address, "Certificate Error" may appear according to the status of the certificate set on the camera. In this case, click **Continue to this website (not recommended).** to continue.
The welcome page appears (in SSL communication).


Certificate Error: Navigation Blocked - Windows Internet Explorer
Click here to close this webpage.
Continue to this website (not recommended).
More information
Done
Internet | Protected Mode: Off
100%

There is a problem with this website's security certificate.

The security certificate presented by this website was not issued by a trusted certificate authority.
The security certificate presented by this website was issued for a different website's address.

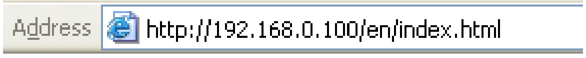
Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.

We recommend that you close this webpage and do not continue to this website.

When "Allow HTTP connection for some clients" (page 54) is checked

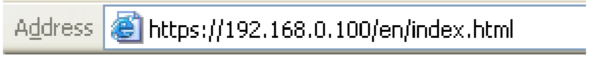
To use HTTP and SSL connections separately to access, enter the following in the address box of the browser.

For HTTP connection



http://192.168.0.100/en/index.html

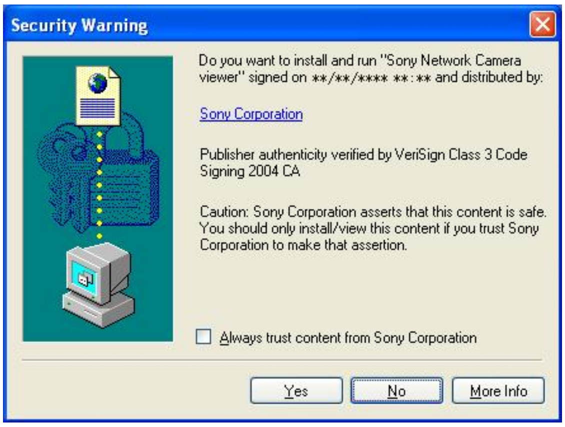
For SSL connection



https://192.168.0.100/en/index.html

When the viewer of the camera is displayed for the first time

“Security Warning” is displayed. When you click **Yes**, ActiveX control is installed and the viewer is displayed.



Do you want to install and run "Sony Network Camera viewer" signed on **/**/**** **:** and distributed by:

Sony Corporation

Publisher authenticity verified by VeriSign Class 3 Code Signing 2004 CA

Caution: Sony Corporation asserts that this content is safe. You should only install/view this content if you trust Sony Corporation to make that assertion.

☐ Always trust content from Sony Corporation

Notes

- If **Automatic configuration** is enabled in the Local Area Network (LAN) settings of Internet Explorer, the image may not be displayed. In that case, disable **Automatic configuration** and set the Proxy server manually. For the setting of the Proxy server, consult your network administrator.
- When you install ActiveX Control, you should be logged in to the computer as Administrator.
- If you are using Windows XP Service Pack 2 or later, Windows Vista or Windows 7, the information bar or “Security Warning” may appear. For details, see “Installing ActiveX Control” in “When using Windows XP Service Pack 2 or later” on page 8, “Installing ActiveX Control” in “When using Windows Vista” on page 11 or “Installing ActiveX Control” in “When using Windows 7” on page 14.

Tip

The software is optimized for Internet Explorer using medium font.

To display the viewer correctly

To operate the viewer correctly, set the security level of Internet Explorer to **Medium** or lower, as follows:

1. Select **Tools** from the menu bar for Internet Explorer, then select **Internet Options** and click the **Security** tab.
2. Click the **Internet** icon (when using the camera via the Internet), or **Local intranet** icon (when using the camera via a local network).
3. Set the slider to **Medium** or lower. (If the slider is not displayed, click **Default Level**.)

When using antivirus software, etc., on the computer

- When you use antivirus software, security software, personal firewall or pop-up blocker on your computer, the camera performance may be reduced, for example, the frame rate for displaying the image may be lower.
- The Web page displayed when you log in to the camera uses JavaScript. The display of the Web page may be affected if you use antivirus software or other software described above on your computer.

Basic Configuration by the Administrator

You can monitor the camera image by logging in with the initial conditions set for this network camera. You can also set various functions according to the installing position, network conditions or purpose of the camera. We recommend you configure the following items before monitoring images from the camera.

Setting contents	**Setting menu**
Set the format of the image sent from the camera.	Video codec Tab (page 44)
Select the White Balance mode according to the installation position.	White balance (page 41)
Select the brightness of the image sent from the camera.	Exposure (page 41) Brightness (page 42)
Select the quality of the image sent from the camera.	Video codec Tab (page 44)
Select the view size of the image.	View size (page 21)
Synchronize the date and time of the camera with those of the computer.	Date & time Tab (page 35)
Make the setting for sending the monitor image attached to an e-mail.	e-Mail (SMTP) Menu (page 69)
Set the user access right for the camera.	User Menu (page 65)
Set a place to be watched beforehand.	Preset position Menu (page 66)
Prepare a panorama image.	To create a full image (page 26)

This section explains how to monitor the image from the camera using your Web browser (Internet Explorer).

The functions of the camera should be set by the Administrator. For the setting of the camera, see "Administrating the Camera" on page 32.

Administrator and User

This network camera identifies those who log in as the **Administrator** or **User**.
The **Administrator** can use all the functions of this network camera, including camera settings. The **User** can use the functions for monitoring the image from the camera, and control the camera. The **Viewer mode** setting is used to restrict the user's access rights. There are five types of users.

Each type of user can use the corresponding functions below.

Function	**Administrator**	**User**				
		Full	**Pan/Tilt**	**Preset position**	**Light**	**View**
Monitor a live image	●	●	●	●	●	●
View the date and time	●	●	●	●	●	●
Control the frame rate (JPEG mode only)	●	●	–	–	–	–
Control the image view size	●	●	●	●	●	–
Save a still image and movie in the computer	●	●	●	●	●	–
Send an image file to the FTP server	●	●	–	–	–	–
Send an image attached to an e-mail	●	●	–	–	–	–
Control the alarm output of the I/O port on the camera	●	●	–	–	–	–
Switch the Day/Night function mode	●	●	–	–	–	–
Switch the TCP/UDP transmission mode (Available in MPEG4/H.264 mode only)	●	●	–	–	–	–
Call the preset position	●	●	●	●	–	–
Perform the pan/tilt/zoom operation	●	●	●	–	–	–
Select the codec mode	●	●	●	●	●	–
Control the setting menu	●	–	–	–	–	–

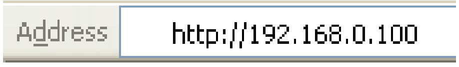
● Usable function
– Not usable function

The access rights of the administrator and the user can be set in "Setting the User — User Menu" of the Administrator menu on page 65.

Logging in to System

Logging in as a user

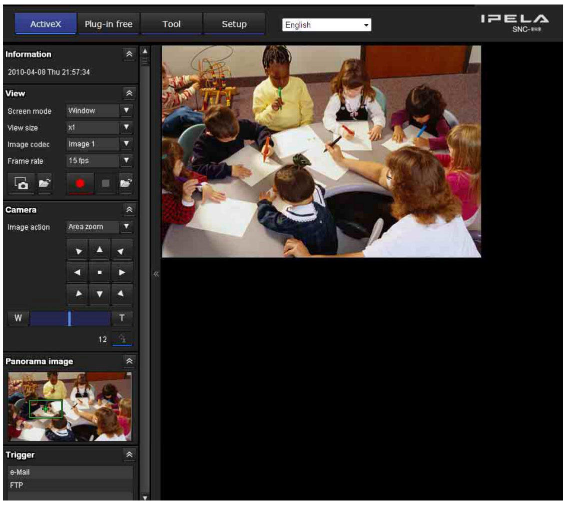
1 Start the Web browser on your computer and type the IP address of the camera you want to monitor.



Address http://192.168.0.100

The viewer is displayed.

Display sample:



2010-04-08 Thu 21:57:34
Screen mode Window
View size x1
Image codec Image 1
Frame rate 15 fps
Image action Area zoom

Three types of viewer are available: ActiveX viewer, Plug-in free viewer and custom homepage. By default, ActiveX viewer is displayed. To switch the viewer, make changes to the Viewer menu (page 81).

Note

If the main viewer does not start correctly, the security level of the Internet Explorer may be set to higher than **Medium**. See “To display the viewer correctly” on page 17 and check the security level.

About Viewers

You can use the following viewers.

ActiveX viewer

This viewer can monitor the camera image in any of the **JPEG**, **MPEG4** and **H.264** video codecs.
You must install this viewer when you access the main viewer for the first time.

When you display the main viewer of the camera for the first time

When you access the network camera using ActiveX viewer for the first time, the **Security Warning** appears. Click **Yes** and install ActiveX Control. You can use all the functions of the viewer with ActiveX Control.

Plug-in free viewer

This viewer allows the user to select from three image display methods: JPEG, JPEG/Flash or ActiveX viewer.
JPEG method: JPEG images will be displayed in sequence.
JPEG/Flash method: JPEG images will be displayed in sequence. Adobe Flash is required to display the image.
ActiveX viewer method: The image can be viewed when the image display is set to **JPEG**, **MPEG4** or **H.264**.

Notes

- If **Automatic configuration** is enabled in the Local Area Network (LAN) Settings of Internet Explorer, the camera image may not be displayed. In that case, disable **Automatic configuration** and set the Proxy server manually. For the setting of the Proxy server, consult your network administrator.
- When you install ActiveX Control, you should be logged in to the computer as the Administrator.

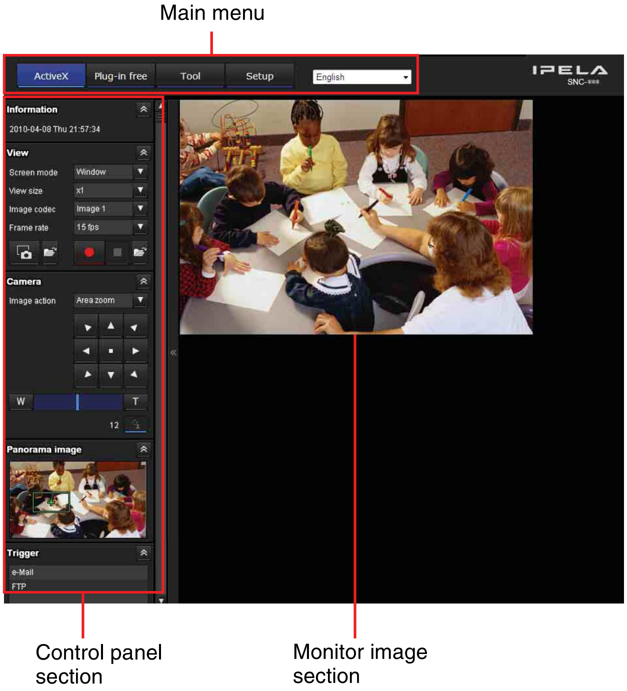
Tip

Every page of this software is optimized for Internet Explorer in **Medium** font.

Configuration of Main Viewer

This section explains the functions of the parts and controls of the main viewer. For a detailed explanation on each part or control, see the specified pages.

Main viewer using ActiveX viewer


Main menu
ActiveX
Plug-in free
Tool
Setup
English
IPELA
SNC-xxx
Information
2010-04-08 Thu 21:57:34
View
Screen mode
Window
View size
x1
Image codec
Image 1
Frame rate
15 fps
Camera
Image action
Area zoom
W
T
12
Panorama image
Trigger
e-Mail
FTP
Control panel section
Monitor image section

Main menu

ActiveX

Displays the ActiveX viewer.

Plug-in free

Displays the Plug-in free viewer.

Tool

You can download system utility from here. (page 29) This operation is only available when you are logged in as administrator.

Setup

Click to display the Administrator menu. (page 32) You can operate this function only when logging in as the administrator.

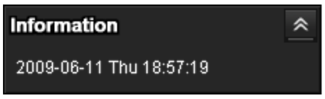
Language

Set language from pull-down.

Control panel section

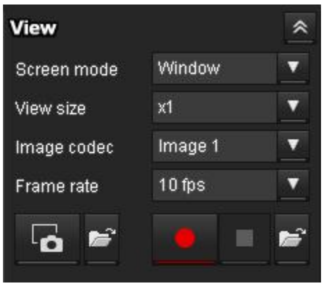
You can drag the panels to the monitor screen and configure them.
To return to the operation panel, drag the panel and configure the operation panel.
Click the ︽ to hide the detail setting menu or click it again to show the menu.

Information panel


Information
2009-06-11 Thu 18:57:19

Check the date and time here.

View panel


View
Screen mode: Window
View size: x1
Image codec: Image 1
Frame rate: 10 fps

You can change the screen mode, size of the image, image codec mode and frame rate. Also, still images and movies can be saved (movie saving can also be stopped) from here.

Screen Mode

Select Window or Full Screen.

View size

Selects the view size to be displayed.
Click **View size** list box to select the view size.
Select **x1/4** to display the images set in **Image size** of the Camera menu (page 45) in 1/4 size.
Select **x1/2** to display the images set in **Image size** of the Camera menu (page 45) in 1/2 size.
Select **x1** to display images set in **Image size** of the Camera menu. (page 45)
Select **Full** to display images according to the view size.
Select **Fit** to display images according to the view size, with fixed aspect ratio.

Image Codec

Select **Image 1** or **Image 2** for the image codec mode.

Note

When **Codec** of **Image 2** is set to **Off** in the Camera menu-Video codec tab, you cannot select **Image 2**.

Frame rate

(Displayed only when the camera image is in JPEG.) Selects the frame rate to transmit images.

📷 (Capture)

Click to capture a still image shot by the camera and to store it in the computer. Click 📂 to open the folder to be saved.

Note

In the case of Windows VISTA or Windows 7, if "Enable Protected Mode" is checked in Control Panel-Internet Option-Security, still images cannot be shot.

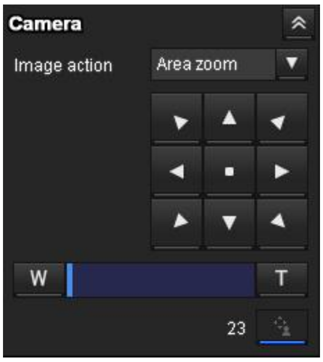
● (Run)/■ (Stop Save Video)

Runs and stops Save Video. Click 📂 to open the folder to be saved.

Note

In the case of Windows VISTA or Windows 7, if "Enable Protected Mode" is checked in Control Panel-Internet Option-Security, video content cannot be saved.

Camera control panel



The camera control panel appears when **SolidPTZ** is set to **On**. This panel allows you to control the camera's pan/tilt/home position and zoom (page 25). In addition, you can obtain authority to operate the camera in exclusive control mode.

Image action

Select the mode of operation from **Off, Area zoom** and **Vector dragging**.

Pan/Tilt control

Click the arrow button the direction in which you want to move the camera. Keep it pressed to move the camera continuously.
To return to the home position, click ■.

Zoom control

Press W to zoom out, and press T to zoom in. Zooming continues while the button remains pressed.

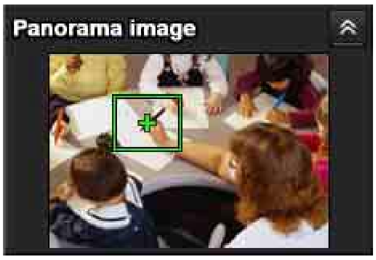
Exclusive control

Click this button to display the time remaining for operation authority. However, if operation authority has not been obtained, the waiting time is displayed.

Note

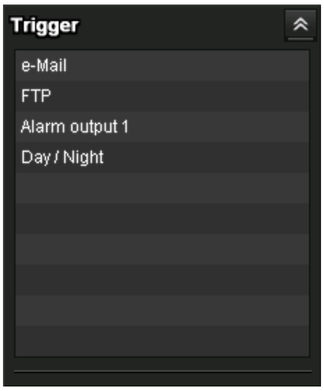
Set the **Exclusive control mode** in the System Tab of the System Menu to **On** to perform exclusive control (page 34).

Panorama panel



It is displayed when **SolidPTZ** is set to on.
If you click on the Panorama panel, the image of that place is displayed on the monitor.

Trigger panel



The above is displayed only when **Viewer mode** (page 65) is set to **Full**, and one or more triggers are enabled in the Trigger menu (page 76).

The configured functions are displayed as buttons on this panel.

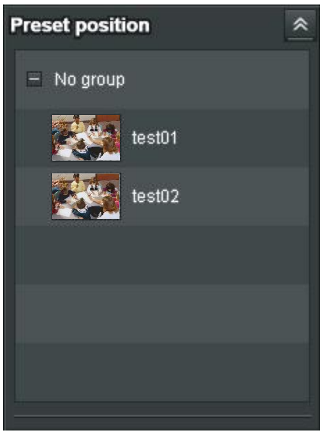
Note

When the Exclusive control mode is set to on, the configured function cannot be used without operation authority.

Click the function button you want to use on the Trigger panel. The selected function is activated. The selectable functions are as follows:

- send still image files attached to an e-mail (page 27)
- send still image files to an FTP server (page 27)
- control the alarm output (page 27)
- switch the Day/Night function on/off (page 27)

Preset position panel



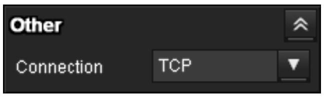
The above is displayed only when one or more preset positions are stored in memory.

The registered preset position is displayed.

If you select a thumbnail when registering a preset position, it will be displayed with a thumbnail.

Select the **Preset position** name from the list. The camera will move to the preset position that you have stored in memory using the Preset position menu.

Others panel



Connection TCP

(The **Other** panel is displayed in the case of an MPEG4 or H.264 image.)

You can switch between TCP and UDP (Unicast/ Multicast).

Each click switches the transmission mode of the video data between TCP mode, Unicast mode, and Multicast mode (page 28).

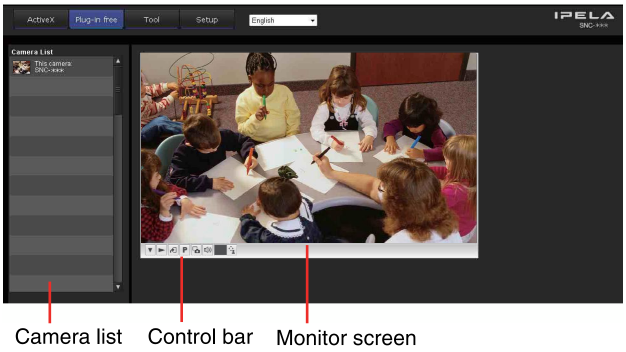
Monitor image

The image shot by the camera is shown here.
There are two modes for on-screen pan/tilt/zoom operation using a mouse: Area zoom mode and Vector dragging mode.
In the Area zoom mode, clicking will pan or tilt the camera towards the center of the image. The Area zoom will move the camera in the direction that displays the area selected by the operator and zooms in at the same time. The operator can choose a part of the image to view and zoom in by surrounding an area with a frame by dragging the mouse.
In the Vector dragging mode, the camera pans or tilts in the dragged direction. How long you drag the mouse determines the speed. Releasing the button on the mouse after dragging stops the panning or tilting of the camera.
You can also use the camera control panel bar to pan or tilt.
The zoom operation using the mouse wheel is available in all modes.

Plug-in free viewer

Main viewer using Plug-in free viewer

Display sample:

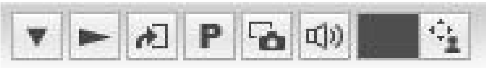


Monitor screen

There are two modes for on-screen pan/tilt/zoom operation using a mouse: Area zoom mode and Vector dragging mode. A control bar is displayed on the screen.
In the Area zoom mode, clicking will pan or tilt the camera towards the center of the image, and will move the camera in the direction that displays the area selected by the operator and zooms in at the same time. The operator can choose a part of the image to view and zoom in by surrounding the area with a frame by dragging the mouse.
In the Vector dragging mode, the camera pans or tilts in the dragged direction. How long you drag the mouse determines the speed. Releasing the button on the mouse after dragging stops the panning or tilting of the camera. You can also use the tool bar to pan or tilt.
The zoom operation using the mouse wheel is available in all modes.

Control bar

The following operation buttons are available.



▼ Setting
You can set the streaming method, image size, frame rate, PTZ operation mode, trigger selection and image codec.

► Streaming start button
Starts streaming. (Appears while stops streaming.)

II Streaming stop button
Stops streaming. (Appears while streaming.)

Trigger run button
Runs the selected trigger.
(Displayed only when **Viewer mode** from **User menu** (page 65) is set to **Full**, and one or more triggers are enabled in the **Trigger menu** (page 76).)

P Preset
Select a preset position to move the camera to the registered preset position.
(Displayed only when a camera preset position is registered.)

Save still image button
Captures still images taken by the camera and saves them to the computer.

Audio output volume slider
Use the slider to adjust the volume. Clicking the button will stop sound output.

Note

This unit is not equipped with audio functions.

■ Control waiting time and control time for exclusive control

Exclusive control button

Camera list

The camera list is displayed when **Camera list** is set to **On** in the viewer menu, and at least one camera is registered.

Using SolidPTZ function

You can operate the camera by using the SolidPTZ function, which provides panning, tilting and zooming by adjusting the position and zooming ratio from the maximum image size, without moving the camera.
There are three modes of camera operation: **Area zoom mode**, **Vector dragging mode** and **PTZ Control bar**.
You can control pan/tilt and zoom in either mode.
The available functions for the camera operation modes vary according to the viewer display. The available functions are as follows:

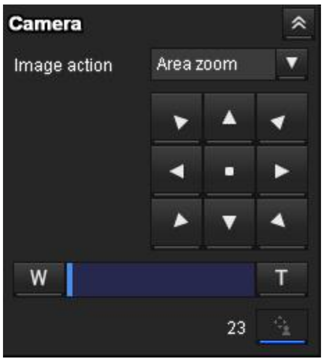
	ActiveX viewer	Plug-in free viewer		
		JPEG	JPEG/ Flash	ActiveX
Operation from control panel	○	×	×	×
Area zoom	○	○	○	○
Vector dragging	○	○	○	○
PTZ control bar	×	○	○	×

Notes

- Pan/Tilt limitation
  The SolidPTZ function controls streaming by cropping or reducing a maximum size image.
  Thus, the more the camera zooms out, the less area to be panned or tilted, and becomes unavailable at the WIDE setting.
- Zoom
  The SolidPTZ function enables you to display an area of the cropped image from the maximum image size, when zoomed in at the TELE setting.
  And the whole area shot in the maximum image size will be displayed if the camera is zoomed out at the WIDE setting.
  The SolidPTZ function's zoom is performed digitally; therefore, some deterioration in image quality may be observed at the TELE setting.

Controlling via the control panel (Operation common to Area zoom mode and Vector dragging mode)

You can operate the camera direction, zoom, and focus by using the control panel for the monitor image currently displayed.



Camera

Image action Area zoom

Pan/Tilt control

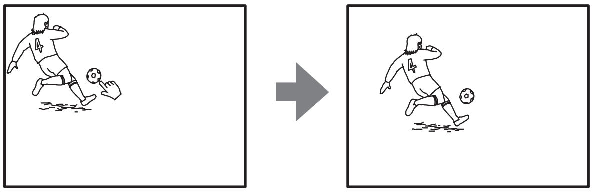
Click the arrow button in the direction in which you want to move the camera. Keep it pressed to move the camera continuously.
To return to the home position, click ■.

Zoom control

Click W to zoom out, and click T to zoom in. Zooming continues while the button remains pressed.

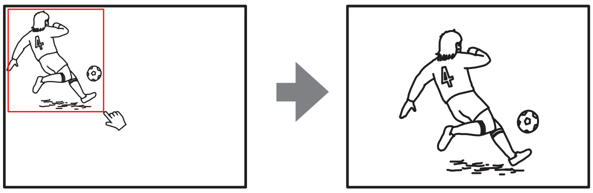
Panning and tilting by clicking the monitor image (Area zoom mode only)

Click on the monitor image, and the camera moves so that the clicked portion is positioned at the center of the display.



Panning, tilting and zooming by specifying the area (Area zoom mode only)

Click and hold the left button of the mouse on the monitor image, and drag the mouse diagonally to draw a red frame around the portion you want to enlarge. The camera moves so that framed portion is positioned at the center of the display and is zoomed in.

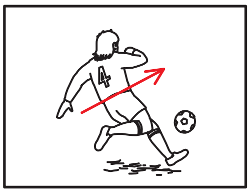


Note

When the specified area is zoomed in, the center may be shifted or some portion of the image may appear out of the monitor image section. In this case, click the point you want to move to the center or click the arrow button on the camera control panel.

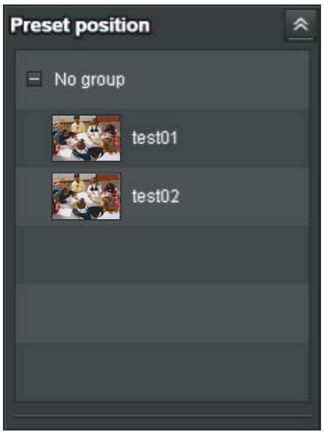
Panning and tilting by dragging the screen (Vector dragging mode only)

When you click on the starting point on the image and drag to the end point, the camera pans/tilts in the direction of the arrow from the starting point to the end point. The speed of operation is determined by the length of arrow. Releasing the button on the mouse stops the panning/tilting of the camera.

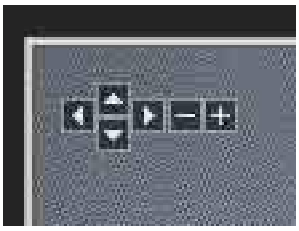


Moving the camera to a preset position (Common operations in Area zoom and Vector dragging modes)

Select a preset position name from the **Preset position** panel. The camera will move to the preset position that you have stored in memory using the Preset position menu (page 66).



Using pan/tilt/zoom operations with the displayed control bar (PTZ Control bar only)



Pan/Tilt operations

Click the arrow of the direction you wish to move the camera. Continue clicking on the arrow to keep moving the direction of the camera.

Zoom operation

Click − to zoom out, click + to zoom in. The zoom operation continues while you are clicking on the button.

Controlling the Camera on a Full Image

When the camera is in controllable condition, the full image appears on the panorama panel.
The full image is the still image of entire area to be shot by the camera in reduced-sized image. By clicking on the full image, the selected location appears on the panorama panel.

To create a full image

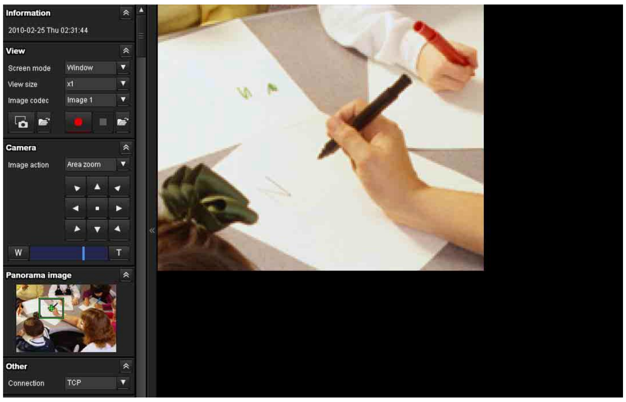
Create the full image with **Capture full image** in the Initialize tab of the System menu. See page 38 for details.

Tip

Make sure to recreate the full image when you move the camera position or change the layout around the camera.

To display a specified position on the monitor

1. Create the full image and display on the monitor.
2. Click the potion you want to see on the full image.
   The current specified position appears on the monitor screen.



2010-02-25 Thu 02:31:44
Screen mode Window
View size x1
Image codec Image 1
Image action Area zoom
Connection TCP

Using the Trigger Button

You can execute various functions by clicking their respective buttons on the Trigger panel.

Sending a monitor image via e-mail

You can send a captured still image by attaching it to an e-mail.
To use this function, you need to make **e-Mail (SMTP)** active and set the address in the Trigger menu of the Administrator menu properly (page 76).

1. Click **e-Mail (SMTP)** on the Trigger panel.
   The still image of the time you click is captured, and your e-mail with the image file attached is sent to the specified mail address.

Sending a monitor image to an FTP server

You can send a captured still image to the FTP server.
To use this function, you need to make FTP active and set the address in the Trigger menu of the Administrator menu properly (page 77).

1. Click **FTP client** on the Trigger panel.
   The still image of the time you click is captured, and the image file is sent to the FTP server.

Controlling Alarm out 1

You can control Alarm out 1.
To use this function, you need to make **Alarm out 1** active in the Trigger menu of the Administrator menu (page 77).

1. Click **Alarm out 1** on the Trigger panel.
   The alarm output is switched by clicking.
   The alarm output mode can be selected from **Toggle** or **Timer** of **Alarm out 1** in the Trigger menu (page 77).

Tip

For the connection of peripheral devices to the alarm output of the I/O port, see the supplied Installation Manual.

Controlling the Day/Night function

You can set the Day/Night function to On (night mode) and Off (day mode).
To use this function, you need to make **Day/Night** active in the Trigger menu of the Administrator menu (page 77).

1. Click **Day/Night** on the Trigger panel.
   Each click switches the Day/Night function alternately between On (night mode) and Off (day mode).

Note

If **Day/Night** in the Trigger-Day/Night menu (page 77) is set to **Auto**, you cannot control the Day/Night function by clicking **Day/Night**.

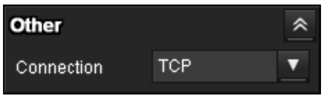
Switching Transmission Mode

You can select the Transmission mode for video/audio data.
This function can be used when Mode (video codec mode) is set to **MPEG4** or **H.264** and the ActiveX viewer is used.

Notes

- The function may not operate correctly if you use personal firewall software or antivirus software on your computer. In that case, disable the software or select the TCP mode.
- If you are using Windows XP Service Pack 2 or later, Windows Vista, or Windows 7, disable “Windows Firewall”. For details, see “Configuring Windows Firewall” in “When using Windows XP Service Pack 2 or later” on page 9, “Configuring Windows Firewall” in “When using Windows Vista” on page 12, or “Configuring Windows Firewall” in “When using Windows 7” on page 14.

1 Select **TCP, Unicast** or **Multicast** from the **Connection** drop-down list in the Others panel.



Connection TCP

TCP: This is normally selected.
When **TCP** is selected, HTTP communication is adopted for video communications.
HTTP is the protocol used for reading the usual Web page.
In an environment capable of reading Web pages, you can watch video by selecting the TCP port.

Unicast: When **Unicast** is selected, RTP (Real-time Transport Protocol) is adopted for video communications. Since RTP is the protocol for running video data, the video playback is smoother than when TCP (HTTP) is selected. If a firewall is installed between the camera and the computer, or depending on the network environment, video may not play back properly when **Unicast** is selected. In this case, select **TCP**.

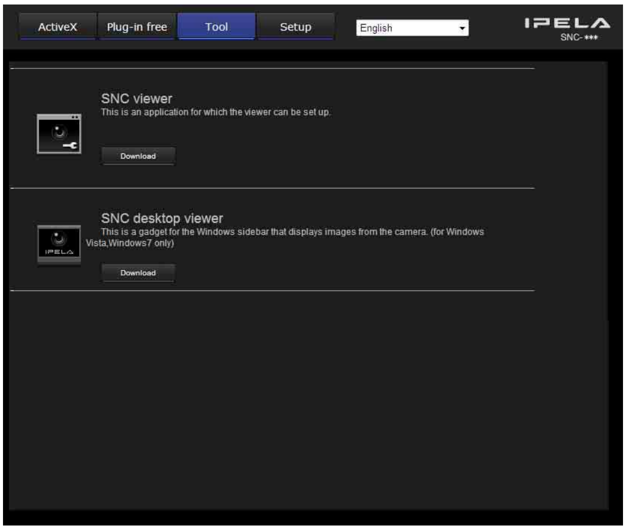
Multicast: This protocol is selectable when **Multicast streaming** (page 48) is **On**. When **Multicast** is selected, RTP (Real-time Transport Protocol) and UDP multicast techniques are adopted for video transmission. By selecting it, the network transmission load of the camera can be reduced. If a router that does not correspond to a multicast or firewall is installed between the camera and the computer, video may not play back properly. In this case, select **TCP** or **Unicast**.

Note

When you are connected to a Proxy server, **Unicast** or **Multicast** cannot be selected.

Using the System Utility

You can download system utility from the tools tab on the main menu.


ActiveX
Plug-in free
Tool
Setup
English
IPELA
SNC-***
Download
Download

SNC viewer
This is an application for which the viewer can be set up.

SNC desktop viewer
This is a gadget for the Windows sidebar that displays images from the camera. (for Windows Vista,Windows7 only)

To use the utility, click **Download** to begin download.

SNC viewer

SNC viewer is an application which allows you to set the initial state of the viewer.

Installing the SNC viewer

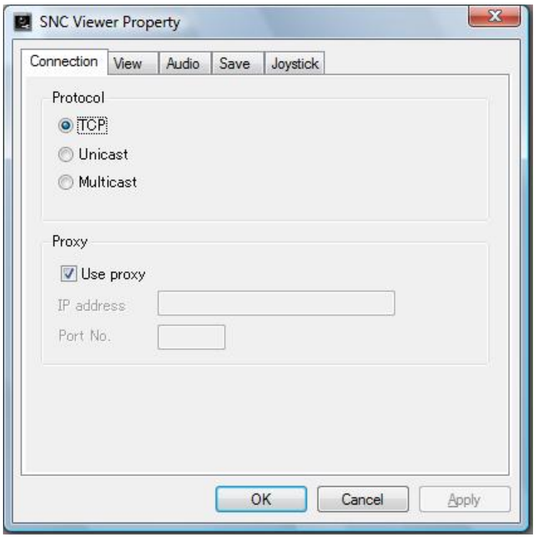
1 Execute the downloaded SNCViewer.msi file.

2 Install the SNC viewer following the instructions on the wizard.
When the license agreement policies are displayed, agree after reading them carefully and install the SNC viewer.

Using the SNC viewer

Click **SNC viewer** in the control panel.

Connection tab

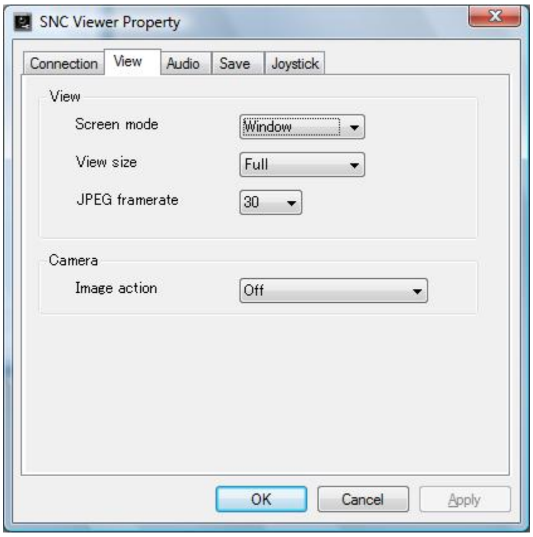

SNC Viewer Property
Connection
View
Audio
Save
Joystick
OK
Cancel
Apply

Protocol
● TCP
○ Unicast
○ Multicast

Proxy
☑ Use proxy
IP address
Port No.

You can set the connection method.
Select the start-up connection from: **TCP**, **Unicast**, and **Multicast**.
If TCP connection is selected, you can configure proxy settings by selecting **Use proxy**.

View tab


SNC Viewer Property
Connection
View
Audio
Save
Joystick
OK
Cancel
Apply

View
Screen mode: Window
View size: Full
JPEG framerate: 30

Camera
Image action: Off

Screen mode
You can select **Window** or **Full Screen**.

View size
You can select the view size.

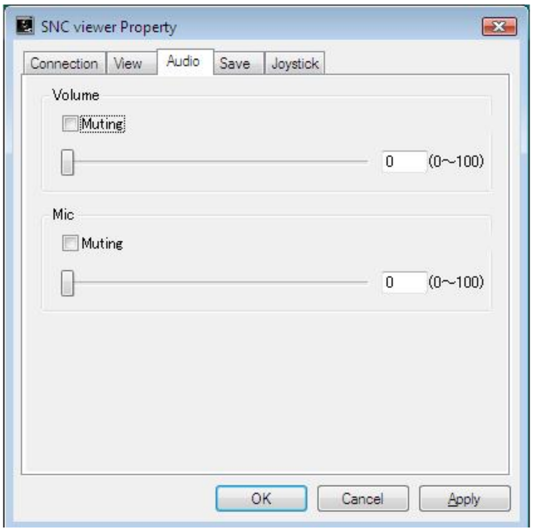
JPEG framerate
You can set the frame rate for JPEG.

Image action
Select from the image operation modes **Area zoom**, **Vector dragging** and **Off**.

Tip

The operation mode of Solid PTZ have been changed for this device.

Audio tab


SNC viewer Property
Connection
View
Audio
Save
Joystick
Volume
☐ Muting
0
(0~100)
Mic
☐ Muting
0
(0~100)
OK
Cancel
Apply

Volume

Muting: Select this option for Muting the sound at start-up.

Use the slide bar to set the volume for start-up sound output.

Mic

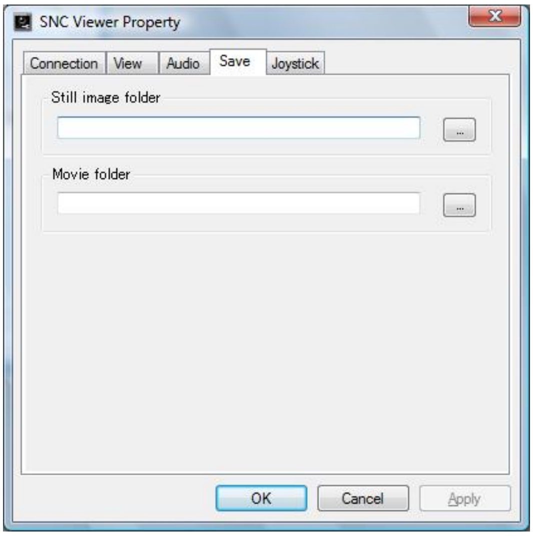
Muting: Select this option for Muting the microphone sound at start-up.

Use the slide bar to set the volume for start-up microphone input.

Note

This unit is not equipped with audio functions.

Save tab

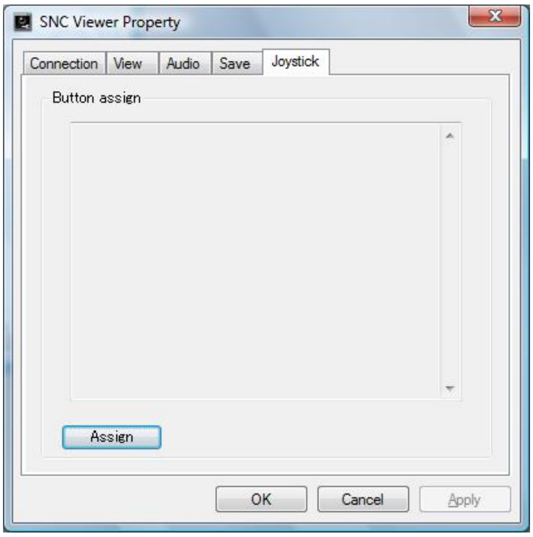

SNC Viewer Property
Connection
View
Audio
Save
Joystick
Still image folder
...
Movie folder
...
OK
Cancel
Apply

Specify a folder to save the still images and movies to.

Note

When using the operating system of Windows VISTA or Windows 7, you can not save video if “Enable Protected Mode” is checked in the Control Panel-Internet Option-Security.

Joystick tab


SNC Viewer Property
Connection
View
Audio
Save
Joystick
Button assign
Assign
OK
Cancel
Apply

You can assign the joystick buttons here.

SNC Desktop viewer

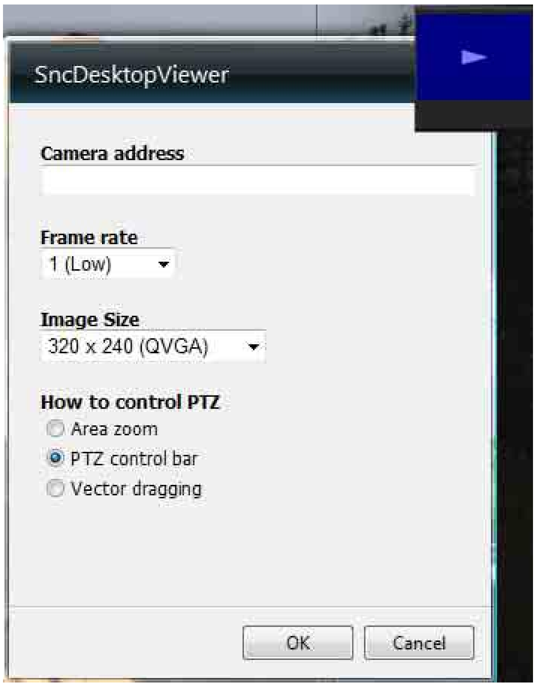
The gadget that displays the camera image on the side bar of Windows Vista or Desktop in the case of Windows 7.

Installing the SNC desktop viewer

1. Click **Download**.
   When the license agreement policies are displayed on the SNC desktop viewer download screen, agree after reading them carefully and download the SNC desktop viewer.
2. Click **Save**.
   Save SncDesktopViewer.gadjet in the specified location.
3. Click **Open files**.
   Run it in the **"Download completed"** dialog.
4. Click **Run**.
   The message **"Do you want to run this software?"** will be displayed. Agree and run.
5. Click **Install**.
   The message **"Do you want to install this Gadget?"** will be displayed. Agree and run.

Using the SNC desktop viewer

When installation is finished, SNC desktop viewer is displayed on the side bar of Windows Vista or Desktop in the case of Windows 7.



SncDesktopViewer

Camera address

Frame rate
1 (Low)

Image Size
320 x 240 (QVGA)

How to control PTZ
○ Area zoom
● PTZ control bar
○ Vector dragging

Camera address

Set the IP address for the camera to display on the Gadget.

Frame rate

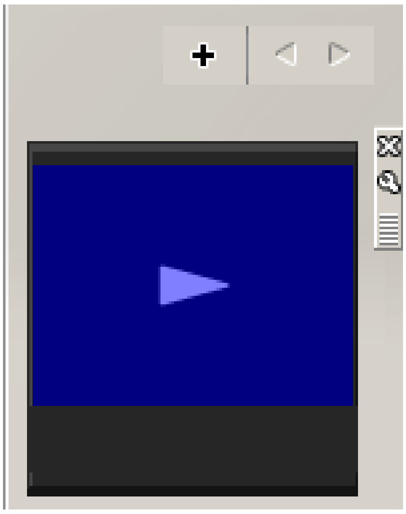
Select the frame rate for the image to display on the Gadget.

Image size

Select the image size for the image to display on the Gadget.

How to control PTZ

Select the PTZ operation mode for the Gadget screen from the options **Area zoom**, **PTZ control bar**, and **Vector dragging**.



Click ☒ (Exit) to exit Gadget.
When you click 🔧 (Set), you will see the following setting screen.

Tip

The operation mode of Solid PTZ has been changed for this device.

Administrating the Camera

This section explains how to set the functions of the camera by the Administrator.
For details about monitoring the camera image, see “Operating the Camera” on page 19.

This section explains the basic operations and each option of the Administrator menu.

Note on the display of menu options

The setting menus of this unit will clearly display only the setting options that you can currently select. Grayed out options cannot be selected.
Only supported functions are displayed.

Basic Operations of the Administrator Menu

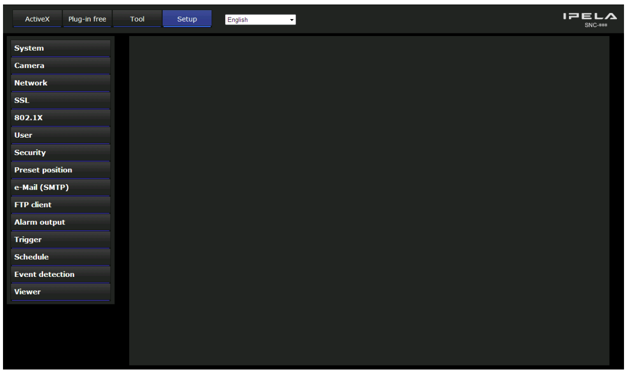
You can use the Administrator menu to set all functions to suit the user’s needs.

How to set up the Administrator menu

1 Log in to the homepage to display the viewer.
For details, see “Logging in as a user” on page 20.

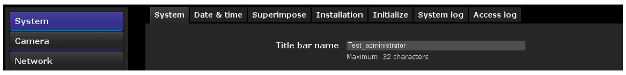
2 Click **Setting** on the main menu.
The authentication dialog appears. Enter the user name and password for Administrator.
The user name “admin” and password “admin” are set at the factory for the Administrator.

The Administrator menu appears.


ActiveX
Plug-in free
Tool
Setup
English
IPELA
System
Camera
Network
SSL
802.1X
User
Security
Preset position
e-Mail (SMTP)
FTP client
Alarm output
Trigger
Schedule
Event detection
Viewer

3 Click the menu name (example: System) on the left side of the Administrator menu.
The clicked menu appears.

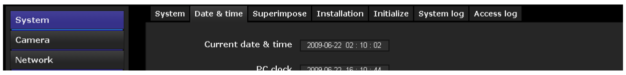
Example: “System” menu


System
Camera
Network
System
Date & time
Superimpose
Installation
Initialize
System log
Access log

Title bar name Test_administrator
Maximum: 32 characters

4 Select the required tab above the menu, and set each setting option in the tab.

Example: “Date & time” tab of “System” menu


System
Camera
Network
System
Date & time
Superimpose
Installation
Initialize
System log
Access log

Current date & time 2009-06-22 02 : 10 : 02

See pages 34 to 84 for details of the menu tabs and setting options.

5 After setting, click **OK**.
The settings you have made become active.

Click **Cancel** to nullify the set values and return to the previous settings.

Buttons common to every menu

The following buttons are displayed on all the menus. The functions of the buttons are the same on every menu.

OK

Click this button to confirm the settings.

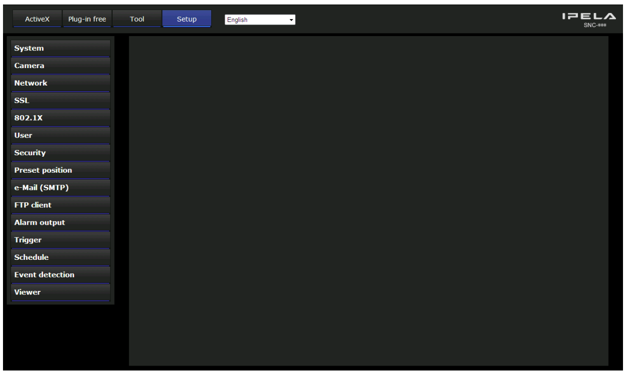
Cancel

Click this button to nullify the set values and return to the previous settings.

General notes on menus

- One-byte katakana character is not valid for any text field, such as User name.
- After changing a setting on a menu, wait at least 30 seconds before turning off the power of the camera. If the power is turned off immediately, the new setting may not be stored correctly.
- If the camera settings are changed while watching the main viewer, some settings cannot be restored. To reflect the change on the opening main viewer, click **Refresh** on the Web browser.

Configuration of the Administrator menu



System

Displays the System menu. (“Configuring the System — System Menu” on page 34).

Camera

Displays the Camera menu for setting the camera image. (“Setting the Camera Image — Camera Menu” on page 39).

Network

Displays the Network menu for setting the network connection. (“Configuring the Network — Network Menu” on page 49).

SSL

Displays the SSL menu for performing SSL communication between the client device and camera. (“Setting the SSL function — SSL Menu” on page 54)

802.1X

Displays the 802.1X menu for connecting the camera to a network configured in compliance with the 802.1X standard for port authentication. (“Using the 802.1X Authentication Function — 802.1X Menu” on page 59)

User

Displays the User menu for setting the log in user name and password. (“Setting the User — User Menu” on page 65)

Security

Displays the Security menu for specifying a computer that is allowed to connect to the camera. (“Setting the Security — Security Menu” on page 66)

Preset position

Displays the Preset position menu to register a position you want to save. “Tour function,” which rotates the registered positions, is also set here. (“Saving the Camera Position and Action — Preset position Menu” on page 66)

e-Mail (SMTP)

Displays the e-Mail (SMTP) menu for sending an e-mail. (“Sending an Image via E-mail — e-Mail (SMTP) Menu” on page 69)

FTP client

Displays the FTP client menu for sending an image file, etc., to an FTP server. (“Sending Images to FTP Server — FTP client Menu” on page 73)

Alarm output (SNC-CH115/CH120/CH160/CH220/CH260/DH120T/DH160/DH220T/DH260/EB520/EM521/ZB550/ZM551)

Displays the Alarm output menu for setting the alarm output terminal of the camera. (“Setting the Alarm Output — Alarm output Menu (SNC-CH115/CH120/CH160/CH220/CH260/DH120T/DH160/DH220T/DH260/EB520/EM521/ZB550/ZM551)” on page 75)

Trigger

Displays the Trigger menu for designating the operation to execute when you run a trigger. (“Setting the Operations from the Viewer — Trigger Menu” on page 76)

Schedule

Displays the Schedule menu for the Day/Night function, e-Mail (SMTP) function, FTP client function, and Alarm output function, etc. (“Setting the Schedule — Schedule Menu” on page 78)

Event detection

Displays the setting menu for all built-in detection functions. (“Setting the Sensor input/Camera tampering detection/Motion detection — Event detection Menu” on page 78)

Viewer

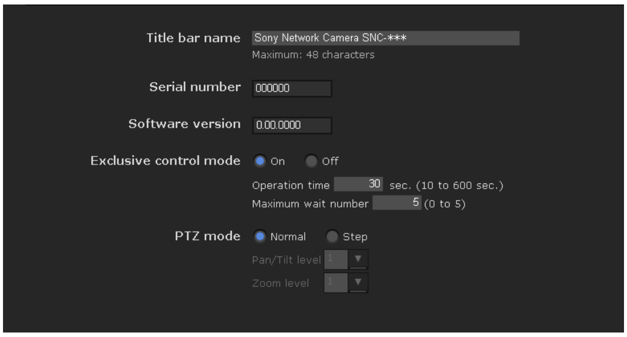
Displays the Viewer menu from which you can select the viewer to use and configure advanced settings. (“Configuring the Viewer — Viewer Menu” on page 81)

Configuring the System

— System Menu

When you click **System** in the Administrator menu, the System menu appears.
Use this menu to perform the principal settings of the software.
The System menu has seven tabs: **System**, **Date & time**, **Superimpose**, **Installation**, **Initialize**, **System log** and **Access log**.

System Tab



Title bar name: Sony Network Camera SNC-***
Maximum: 48 characters

Serial number: 000000

Software version: 0.00.0000

Exclusive control mode: ● On ○ Off

Operation time 30 sec. (10 to 600 sec.)

Maximum wait number 5 (0 to 5)

PTZ mode: ● Normal ○ Step

Pan/Tilt level 1

Zoom level 1

Title bar name

Type a name of up to 48 characters to be displayed on the title bar. The characters typed here are displayed on the title bar of the Web browser.

Serial number

The serial number of the camera is displayed.

Software version

The software version of this camera is displayed.

Exclusive control mode

Controls the authority to operate pan, tilt, zoom and some other functions of the camera.

On: Only one user has control authority. Set the operation time for one user in **Operation time**.
If a user tries to operate a function during operation by another user, the authority is controlled by the settings of **Operation time** and **Maximum wait number**.

Off: Multiple users can control pan, tilt and zoom at the same time. When multiple users control these functions at the same time, the last operation has priority.

Operation time

Sets the time length for a user who has control authority. The selectable range is from **10** to **600** seconds. This is effective when **Exclusive control mode** is set to **On**.

Maximum wait number

Sets the number of users who are permitted to wait for their turn for control authority during operation by one user. The selectable number is from **0** to **5**. This is effective when **Exclusive control mode** is set to **On**.

Notes

- To use **Exclusive control mode**, the date and time of this unit and the connected computer must be set correctly first.
- To use **Exclusive control mode**, do not disable the Web browser Cookie. If it is disabled, this mode cannot be used.
- When you change the **Exclusive control mode** setting, click **Refresh** on the Web browser to reflect the change when opening the main viewer page.

PTZ mode

Select the pan/tilt control mode using the 8-direction arrow buttons (page 22) and the zoom control mode using the W/T buttons (page 22). Select **Normal** or **Step**.

Normal: When you click the mouse button, the camera starts panning, tilting or zooming, and the operation continues while you hold down the mouse button. To stop the operation, release the mouse button.

Step: Each time you click the mouse button, the camera moves (pans, tilts or zooms). If you keep the mouse button held down for more than 1 second, the operation mode is temporarily changed to **Normal**. When you release the mouse button, camera operation stops and the **Step** mode is restored.

When you select **Step**, **Pan/Tilt level** and **Zoom level** are selectable.

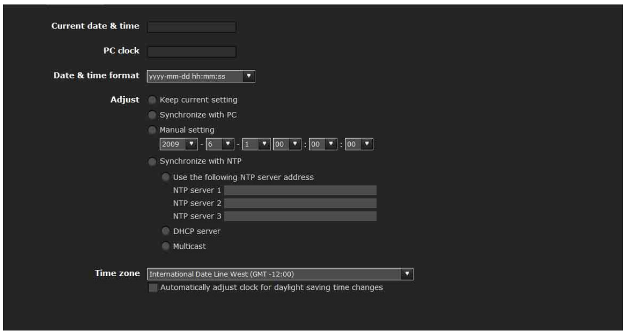
Pan/Tilt level: Select the camera transition level from **1** to **10** by clicking the 8-direction arrow buttons for panning/tilting. Selecting **10** provides the maximum transition level.

Zoom level: Select the camera transition level from **1** to **10** by clicking W/T for zooming. Selecting **10** provides the maximum transition level.

OK/Cancel

See “Buttons common to every menu” on page 32.

Date & time Tab



Date & time format: yyyy-mm-dd hh:mm:ss

Manual setting: 2009 - 6 - 1 00 : 00 : 00

Time zone: International Date Line West (GMT -12:00)

Current date & time

Displays the date and time set on this unit.

Note

After you have purchased the camera, be sure to check the date and time of the camera and set as necessary.

PC clock

Displays the date and time set on your computer.

Date & time format

Select the format of date and time to be displayed in the main viewer from the drop-down list.
You can select the format between **yyyy-mm-dd hh:mm:ss** (year-month-day hour:minutes:seconds), **mm-dd-yyyy hh:mm:ss** (month-day-year hour:minutes:seconds), and **dd-mm-yyyy hh:mm:ss** (day-month-year hour:minutes:seconds).

Adjust

Select how to set the day and time.

Keep current setting: Select if you do not need to set the date and time.

Synchronize with PC: Select if you want to synchronize the camera's date and time with the computer.

Manual setting: Select if you want to set the camera's date and time manually.
Select the year, month, date, hour, minutes and seconds from each drop-down list.

Synchronize with NTP: Select if you want to synchronize the camera's date and time with those of the time server called NTP server (Network Time Protocol).
Set the NTP server when **Synchronize with NTP** is selected.

Use the following NTP server address: Synchronize with the selected NTP server address.

- **NTP server 1:** Enter the first choice for NTP server address.
- **NTP server 2:** Enter the second choice for NTP server address.
- **NTP server 3:** Enter the third choice for NTP server address.

DHCP server: Select DHCP server when you need to get NTP server information from DHCP server.

Multicast: Select Multicast when you search for an NTP server with Multicast.

Time zone

Set the time difference from Greenwich Mean Time in the area where the camera is installed.
Select the time zone in the area where the camera is installed from the drop-down list.
For Japan, select "**Osaka**, **Sapporo**, **Tokyo (GMT+9:00)**"

Automatically adjust clock for daylight saving time changes

When selected, the clock is automatically adjusted according to the daylight saving time of the selected time zone.

Note

If the time zone selected in **Time zone** is different from that set on the computer, the time is adjusted using the time zone difference and set on the camera.

OK/Cancel

See "Buttons common to every menu" on page 32.

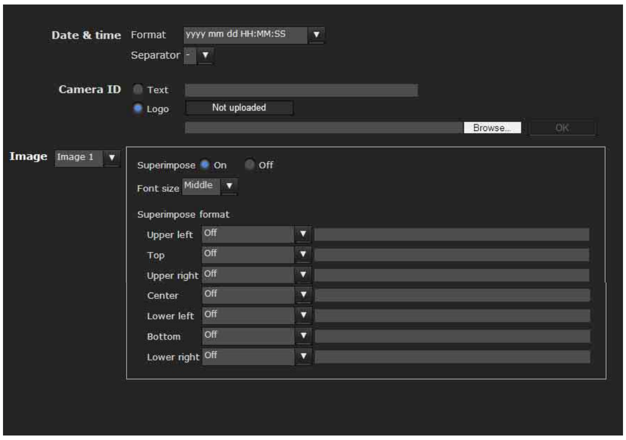
Superimpose Tab

Select whether to superimpose the camera ID, date/time and other information on an image or not. A still image can be also superimposed.
You can select whether to superimpose on Image 1 and Image 2 or not, set the font size and configure each displayed item.

Note

The superimpose setting for Image 1 is applied to Image 2 in the following conditions.
Codec information is not displayed.

- Image 1 and Image 2 are the same size and larger than 640 × 480.
- When **Cropping** is set to **On** in the Camera menu, either vertical or lateral size of the cropped image is larger than that of 640 × 480.



Date & time Format yyyy mm dd HH:MM:SS
Separator -

Camera ID ○ Text
● Logo Not uploaded

Image Image 1
Superimpose ● On ○ Off
Font size Middle
Superimpose format
Upper left Off
Top Off
Upper right Off
Center Off
Lower left Off
Bottom Off
Lower right Off

Date & time

Set the format of date/time and the separator. These settings are applied to both Image 1 and Image 2.

Camera ID

Select the type of information displayed as Camera ID. Set the Text string to be displayed.
Logo: Select an image file you want to use for **Logo** by using the **Browse...** button, and click **Upload** to upload the file.

Supported image file format: gif89a format (GIF animation and transparent GIF format are not supported.)
Maximun image size: 640 × 120
Number of horizontal pixels: An even number
Maximum file size: Approximately 50 KB

Notes

- Both **Text** and **Logo** cannot be used at the same time.
- Camera ID is applied to both Image 1 and Image 2.
- If the image size of the logo is larger than the image, it cannot be displayed.

Image

Select whether to superimpose on Image 1 and Image 2 or not, set the font size and configure each item that display position is assigned.

Superimpose

On/Off: When using the Superimpose function, select **On**.
Font size: Set the font size.

Superimpose format

Set the items to superimpose according to the displayed position. English one byte characters and symbols are displayed. Available items are as follows:

- **Off:** Set not to superimpose.
- **Text:** Set to display a string that you want. You can enter characters in the right free space.
- **Date & time:** Set to display date and time.
- **Camera ID:** Set to display Camera ID.
- **Codec:** Set to display the bit rate and frame rate.
- **Zoom ratio:** Set to display the zoom ratio.
- **Camera direction:** Set to display the name of a preset position.
- **Event:** Set to display an event record.

Notes

- The items except for **Off** and **Text** cannot be set at the same time.
- Depending on the length of the string you enter in **Text**, the string display may crossover the other item. In this case, change the display position or modify the string.
- When Image 2 is turned on and **Video Output** is set to **On**, the content set to be output from **Video Output** is displayed. (SNC-ZB550/ZM550/ZM551)

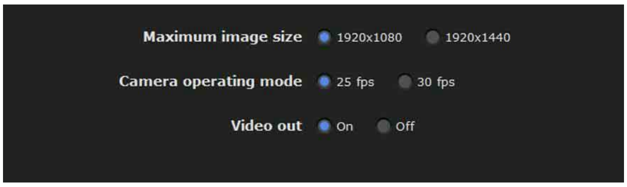
OK/Cancel

See “Buttons common to every menu” on page 32.

Installation Tab

You can perform settings related to installation.

Display sample: SNC-CH220



Maximum image size ● 1920x1080 ○ 1920x1440
Camera operating mode ● 25 fps ○ 30 fps
Video out ● On ○ Off

Maximum image size

SNC-EB520/EM520/EM521

The maximum image size is 800 × 600. This maximum setting cannot be changed.

SNC-CH115/CH120/CH160/DH120/DH120T/ZB550/ZM550/ZM551

1280 × 720: Image will have an aspect ratio of 16:9, and an image size up to 1280 × 720 can be specified for the video codec.
1280 × 1024: Image will have an aspect ratio of 5:4, and an image size up to 1280 × 1024 can be specified for the video codec.

SNC-CH220/CH260/DH220/DH220T/DH260

1920 × 1080: Image will have an aspect ratio of 16:9, and an image size up to 1920 × 1080 can be specified for the video codec.

1920 × 1440: Image will have an aspect ratio of 4:3, and an image size up to 1920 × 1440 can be specified for the video codec.

Notes

- The camera restarts when the Maximum image size is changed. It takes about 2 minutes.
- The settings below are changed when the Maximum image size is changed.
  - Camera menu-Privacy Masking tab: returns to the factory setting.
  - Camera menu-video codec tab: returns to the factory setting except:

    SNC-CH115/CH120/CH160/DH120/DH120T/ZB550/ZM550/ZM551
    - Image size of image1: to be 1280 × 720 when set to 1280 × 720, or 1280 × 1024 when set to 1280 × 1024.
    - Frame rate of image1: to be 30 fps or 25 fps* when set to 1280 × 720, or 20 fps when set to 1280 × 1024.

    SNC-CH220/CH260/DH220/DH220T/DH260
    - Image size of image1: 1920 × 1080 (when set to 1920 × 1080), or 1920 × 1440 (when set to 1920 × 1440).
    - Frame rate of image1: 30 fps or 25 fps* (when set to 1920 × 1080), or 20 fps (when set to 1920 × 1440).

    * Depending on the camera operating mode setting.
  - Preset position menu: returns to the factory setting.
  - Alarm buffer menu: returns to the factory setting.
  - Event detection menu- motion detection tab: returns to the factory setting except:

    SNC-CH115/CH120/CH160/DH120/DH120T/ZB550/ZM550/ZM551

    Maximum detection size of motion diction: to be width of 1280 and height of 720 when set to 1280 × 720, or 1280 and height of 1024 when set to 1280 × 1024.

    SNC-CH220/CH260/DH220/DH220T/DH260

    Maximum detection size of motion detection: width 1920, height 1080 (when set to 1920 × 1080), or 1920 and 1440 (when set to 1920 × 1440).
- Once the maximum image size has been changed, full panorama image will not be displayed in the optimum aspect ratio. To return to the optimum aspect ratio, capture the full image again in **Initialize tab - Capture full image**.

Camera operating mode (SNC-CH115/CH120/CH160/CH220/CH260/DH120/DH120T/DH160/DH220/DH220T/DH260/ZB550/ZM550/ZM551)

You can switch the operating modes of the camera. Select either **25 fps** or **30 fps**.

The settings of the camera operating mode are related to the frame rate selected in the Video code tab.
When the camera operating mode is switched, the message "This System will be rebooted. Are you sure?" appears.
Click **OK** to reboot the camera, and complete the settings.

Monitor out (SNC-CH115/CH120/CH160/CH220/CH260/DH120/DH120T/DH160/DH220/DH220T/DH260/EB520/EM520/EM521)

You can configure the output setting for the monitor output terminal of this unit. Select **On** to output an NTSC or PAL signal.

Notes

- **Monitor out** is used when you install this unit to adjust the angle of view, etc. Be sure to set **Off** and unplug the AV cable when you do not use this function.
- Be aware that the system performance may be influenced, if monitor out is set to on.
- The output signal format is determined according to the setting of the camera's **NTSC/PAL switch**.
- Motion detection function is not available when Monitor out is set to **On**.

Video out (SNC-ZB550/ZM550/ZM551)

When the network connection change switch is set to LAN, you can configure the output setting for the monitor output terminal of this unit. Select **On** to output an NTSC or PAL signal.

Note

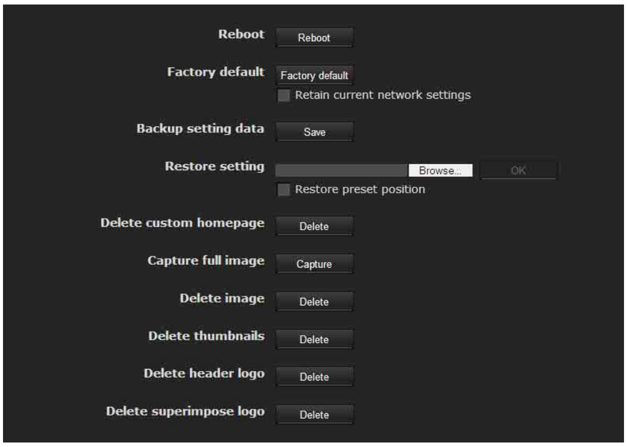
- The video signal format is determined by the setting of the camera's "NTSC/PAL Change Switch" setting.
- When **Video Output** is set to **On**, the motion detection function is not available.

OK/Cancel

See "Buttons common to every menu" on page 32.

Initialize Tab

Display sample: SNC-CH120


Reboot
Reboot
Factory default
Factory default
☐ Retain current network settings
Backup setting data
Save
Restore setting
Browse...
OK
☐ Restore preset position
Delete custom homepage
Delete
Capture full image
Capture
Delete image
Delete
Delete thumbnails
Delete
Delete header logo
Delete
Delete superimpose logo
Delete

Reboot

Used when rebooting the camera.
Click **Reboot**, and the message "This System will be rebooted. Are you sure?" appears. Click **OK** to reboot the camera. It takes about two minutes to restart.

Factory default

Resets the camera to the factory settings.

Retain current network settings

When this item is checked, only the current network settings will be retained after reset.
Click **Factory default**, and the message "Setup data will be initialized. Are you sure?" appears.
When you click **OK**, the network indicator on the camera starts to blink. After adjustments of the default settings have finished, the camera reboots automatically. Do not turn off the camera until the camera reboots.

Tip

The camera can also be reset to the factory settings by turning on the power of the camera while pressing the reset button on the camera. For details, see the supplied Installation Manual.

Backup setting data

Saves the setting data of the camera in a file.
Click **Save**, and follow the instructions on the Web browser to specify the folder and save the setting data of the camera.
The file name preset at the factory is "snc-ch120.cfg" for SNC-CH120.

Restore setting

Loads the stored setting data of the camera.

Click **Browse** and select the file in which the setting data is stored. Click **OK**, and the camera is adjusted according to the loaded data, and restarted.

Restore preset position and Privacy Masking settings

If you select this, the stored setting data of the camera, the preset position data and the data of the Privacy Masking setting are loaded.

Notes

- When **Restore preset position and the Privacy Masking setting** is selected, it may take some time to load the setting data.
- The following items cannot be stored or restored with **Backup setting data** or **Restore setting**.
  - a homepage created using Custom Homepage of SNC toolbox
  - a client certificate and CA certificate to be used in the 802.1X authentication function
  - Header logo
  - superimpose logo

Delete custom homepage

Click **Delete** to delete the homepages recorded in the flash memory of the camera with Custom Homepage of SNC toolbox (page 91).

Capture full image

When you click **Capture**, a full image covering the entire shooting range is shot and saved to the camera. The full image is captured regardless of the image size and crop settings.

Note

Main viewer image may be interrupted or image and/or audio files may not be created correctly during image capturing.

Delete image

By pressing **Delete**, you can delete the full image recorded in the camera.

Delete thumbnails

Click **Delete** to delete the thumbnails set in the Preset Setting menu.

Delete header logo

Click **Delete** to delete the header logo set in the Viewer menu.

Delete superimpose logo

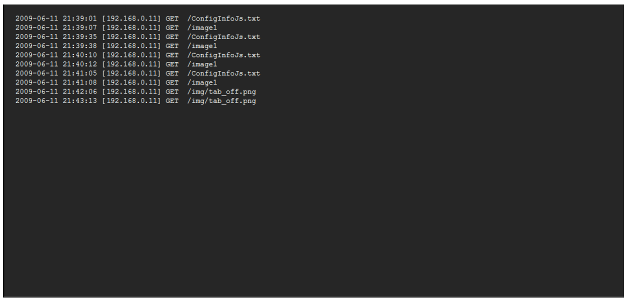
Click **Delete** to delete the superimposed logo, set in the camera ID on the Superimpose tab of the System menu, from the camera.
To set whether to show or hide the superimpose logo, you need to configure the setting under the Superimpose tab.

System log Tab

```
2009-06-11 21:38:44 System Started.
```

The data of the software activity of the camera is recorded in this log. It includes data that is useful if a problem occurs.
Click **Reload** to reload the latest data.

Access log Tab



```
2009-06-11 21:39:01 [192.168.0.11] GET  /ConfigInfoJs.txt
2009-06-11 21:39:07 [192.168.0.11] GET  /image1
2009-06-11 21:39:35 [192.168.0.11] GET  /ConfigInfoJs.txt
2009-06-11 21:39:38 [192.168.0.11] GET  /image1
2009-06-11 21:40:10 [192.168.0.11] GET  /ConfigInfoJs.txt
2009-06-11 21:40:12 [192.168.0.11] GET  /image1
2009-06-11 21:41:05 [192.168.0.11] GET  /ConfigInfoJs.txt
2009-06-11 21:41:08 [192.168.0.11] GET  /image1
2009-06-11 21:42:06 [192.168.0.11] GET  /img/tab_off.png
2009-06-11 21:43:13 [192.168.0.11] GET  /img/tab_off.png
```

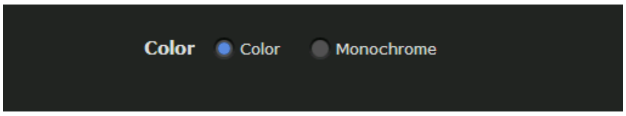
The access record of the camera is displayed.
Click **Reload** to reload the latest data.

Setting the Camera Image

— Camera Menu

When you click **Camera** in the Administrator menu, the Camera menu appears.
Use this menu to set the functions of the camera.
The Camera menu consists of the following tabs.
SNC-CH115/CH120/CH220/EB520/ZB550: **Common**, **Focus**, **Picture**, **Privacy Masking, Day/Night**, **Video codec**, and **Streaming**.
SNC-CH160/CH260/DH120/DH120T/DH160/DH220/DH220T/DH260/EM520/EM521/ZM550/ZM551: Common, **Focus/Zoom**, **Picture**, **Privacy Masking, Day/Night**, **Video codec**, and **Streaming**.

Common Tab



Color

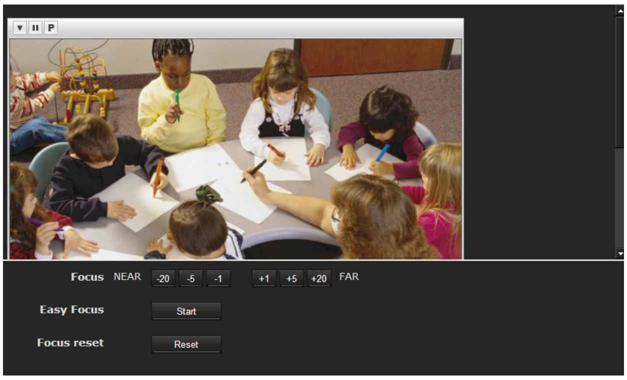
Select **Color** or **Monochrome** for the image.

OK/Cancel

See "Buttons common to every menu" on page 32.

Focus tab — Adjusting the Focus (SNC-CH115/CH120/CH220/EB520/ZB550)

Adjust the focus by moving the flange back position of the imaging device.



Preview screen

Preview the image and adjust the focus.
The current image focus position is superimposed when adjusting the focus.
For the details on each button, refer to the Control bar of the Plug-in free viewer (page 24).

Note

If you click the buttons in this tab, in order to adjust the focus easily, the settings below are temporarily changed:
- Privacy Masking and **Cropping** are deactivated.
- The current image focus position is superimposed.
- The alarm of **Motion detection** is deactivated.

Adjusting the focus

Click **Start** button in **Easy Focus** to set the focus to the optimum position.

Notes

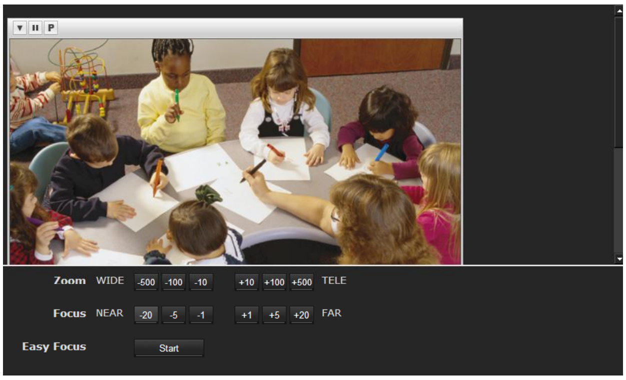
- The most suitable focus position may not be available depending on imaging conditions.
  If so, click the –20, –5, –1, +1, +5 or +20 buttons to adjust the focus accordingly.
- When **SolidPTZ** is set to **On**, **Easy Focus** may not work properly. In this case, set **SolidPTZ** to **Off**.

Focus reset

Click the **Reset** button to return to the default flange back position.

Focus/Zoom tab — Adjusting the focus/zoom (SNC-CH160/CH260/DH120/DH120T/DH160/DH220/DH220T/DH260/EM520/EM521/ZM550/ZM551)

Adjust the focus and zoom position by looking at the image.



Preview screen

Preview the image and adjust the focus/zoom.
The current image focus/zoom position is superimposed when adjusting the focus/zoom.
For the details of each button, please refer to the Control bar of the Plug-in free viewer (page 24).

Note

If you click the buttons in this tab, in order to adjust the focus/zoom easily, the settings below are temporarily changed:
- Privacy Masking and **Cropping** are deactivated.
- The current image focus/zoom position is superimposed.
- The alarm of **Motion detection** is deactivated.

Adjusting the zoom

Click the –500, –100, –10, +10, +100 or +500 buttons to adjust the zoom position accordingly.

Note

The focus is moved slightly after adjusting; adjust the focus again, as necessary.

Adjusting the focus

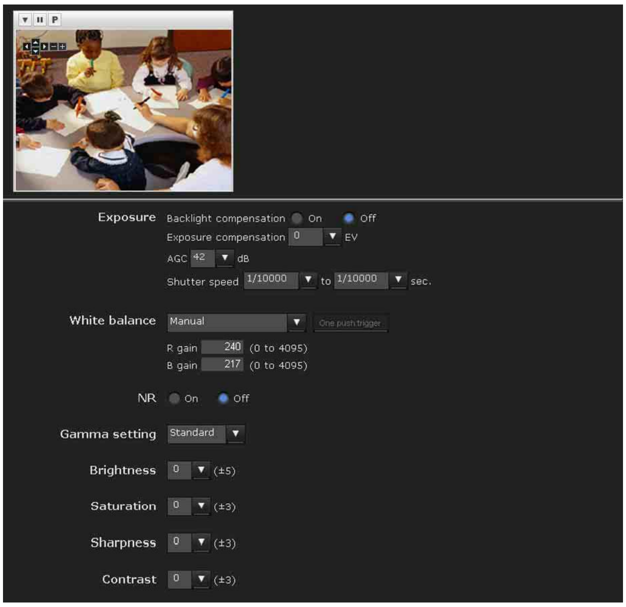
Click **Start** button in **Easy Focus** to set the focus to the optimum position.

Notes

- The most suitable focus may not be available depending on imaging conditions. If so, click the –20, –5, –1, +1, +5, +20 buttons to adjust the focus.
- When **SolidPTZ** is set to **On**, **Easy Focus** may not work properly. In this case, set **SolidPTZ** to **Off**.

Picture Tab

You can set the color conditions, exposure, etc., of the camera.



Exposure
Backlight compensation ○ On ● Off
Exposure compensation 0 EV
AGC 42 dB
Shutter speed 1/10000 to 1/10000 sec.

White balance Manual
R gain 240 (0 to 4095)
B gain 217 (0 to 4095)

NR ○ On ● Off

Gamma setting Standard

Brightness 0 (±5)

Saturation 0 (±3)

Sharpness 0 (±3)

Contrast 0 (±3)

Preview screen

Preview the image and adjust the picture setting.
For details on each button, refer to the Control bar of the Plug-in free viewer (page 24).

Exposure

Adjust the settings of exposure.

Backlight compensation

Select **On** to enable the backlight compensation function.

Note

When the backlight compensation function is set to **On**, hunting may occur. In this case, select **Off**.

Exposure compensation

Select the exposure correction value from the list box to adjust the target brightness for the automatic exposure setting.
A larger value brightens the image, and a smaller value darkens the image. Selectable values are as follows:

+2.0, +1.6, +1.3, +1.0, +0.6, +0.3, 0, –0.3, –0.6, –1.0, –1.3, –1.6, –2.0 (EV)

AGC

Select the maximum gain value of the automatic exposure setting as follows.

42, 36, 30, 24, 18, 12, 6, **Off** (db)

If you select **Off**, the automatic exposure setting by gain control is not performed.

Shutter speed

- Auto-controlled shutter speed automatically sets the exposure.
- Select the minimum and maximum shutter speeds from the list box. Selectable shutter speed values are as follows:

  1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/50, 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 (sec.)

- If you set the same values at the minimum and maximum shutter speeds, the shutter speed will not be changed.

White balance

Select the White Balance mode.

ATW: Eliminating the influences caused by environmental illumination or lights, adjust the white balance automatically to reproduce original colors of the objects (approximately 2000 K to 10000 K).

ATW-PRO: Automatically adjusts the color to be closest to the image you are viewing (approximately 3000 K to 5800 K).

Fluorescent lamp: Sets the white balance to that suitable for photography under three-band fluorescent lighting with a neutral white color.

Mercury lamp: Sets the white balance to that suitable for photography under a mercury lamp.

Sodium vapour lamp: Sets the white balance to that suitable for photography under a high-pressure sodium vapor lamp.

Metal halide lamp: Sets the white balance to that suitable for photography under a metal halide lamp.

White LED: Sets the white balance to that suitable for photography under the light of white LEDs.

One push WB: The **One push trigger** button becomes active. Click the button to adjust the white balance instantly.

Manual: When this option is selected, **R gain** and **B gain** become active. Selectable gain values are from 0 to 4095.

NR

Image noise can be reduced by using the NR function.
Select **Off** to disable the function.

Gamma setting

Set the gamma curve in the camera. Depending on subject or recording conditions, the following settings will be available:

Normal: This setting is suitable for many scenes.

Scene 1: This setting is suitable for shooting dark areas without losing detail of bright areas when the subject is in high contrast, such as both sunlight and shadow.

Scene 2: This setting is suitable for obtaining an effect stronger than **Scene 1**.

Scene 3: This setting is suitable for shooting dark areas brightly when the subject is in high contrast, such as both sunlight and shadow.

Scene 4: This setting does not perform gamma correction. It is suitable for picture processing of an image you shot.

Scene 5: This setting is suitable for preventing bright subjects from overexposure.

Scene 6: This setting is suitable for using a display system with a gamma characteristic of 1.8.

Brightness

Select the brightness in 11 steps, from **–5** to **+5**. Selecting **+5** provides the brightest picture.

Saturation

Select the saturation in 7 steps, from **–3** to **+3**. Selecting **+3** provides the highest image saturation.

Sharpness

Select the sharpness in 7 steps, from **–3** to **+3**. Selecting **+3** provides the sharpest picture.

Contrast

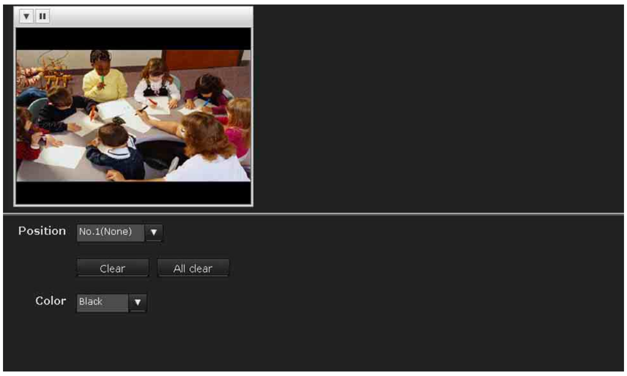
Select the contrast in 7 steps, from **–3** to **+3**. Selecting **+3** provides the highest contrast.

OK/Cancel

See "Buttons common to every menu" on page 32.

Privacy masking tab

Using the privacy masking enables you to hide images by masking specified parts of the images when streaming.



Position No.1(None)

Color Black

Preview screen

This screen is for monitoring images and configuring privacy masking.

For details on each button, refer to the Control bar of the Plug-in free viewer (page 24).

Position

Allows you to delete privacy masks one-by-one or all at one time.

After completing the configuration, register by clicking **OK**.

Clear: Click the button to delete the privacy mask set.

All clear: Click the button to delete all privacy mask.

Color

Specify the color of privacy masks. This setting is common to every privacy mask.

The colors used are as follows:

Black, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, White, Red, Green, Blue, Cyan, Yellow, Magenta

Setting a privacy mask

Operate according to the following procedure to set a privacy mask in the position of your choice:

1. Face the camera to the position where you want to set a privacy mask using the control button on the preview screen.
2. Specify the privacy mask area by dragging the mouse on the preview screen.
3. Select the number to register from the **Position** drop-down list.

4 Select the color of the mask from the **Color** drop-down list.

Note

The color is common to every privacy mask. The color selected last is applied.

5 Click **OK**.
The mask is displayed on the preview screen.

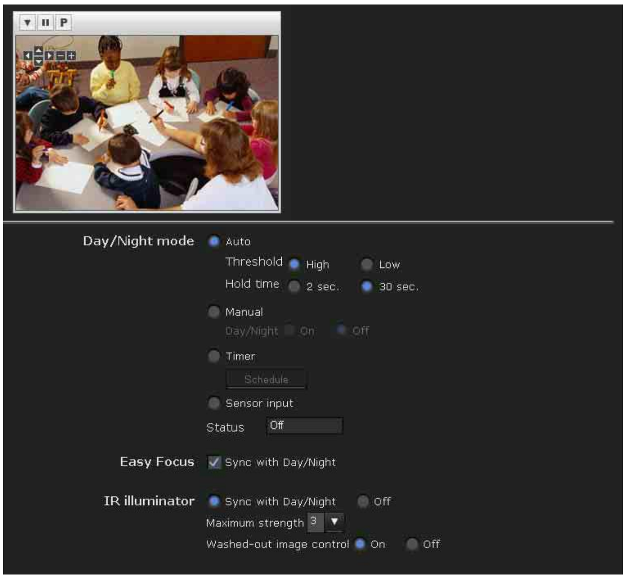
OK/Cancel

See “Buttons common to every menu” on page 32.

Day/Night Tab

Use this tab to set the day/night function of the camera.

Display sample: SNC-CH160



Day/Night mode ● Auto
Threshold ● High ○ Low
Hold time ○ 2 sec. ● 30 sec.
○ Manual
Day/Night ○ On ● Off
○ Timer
Schedule
○ Sensor input
Status Off

Easy Focus ☑ Sync with Day/Night

IR illuminator ● Sync with Day/Night ○ Off
Maximum strength 3
Washed-out image control ● On ○ Off

Preview screen

This screen is for monitoring images and configuring day/night settings.
For details on each button, refer to the Control bar of the Plug-in free viewer (page 24).

Day/Night mode

Select the day/night mode from among four modes.

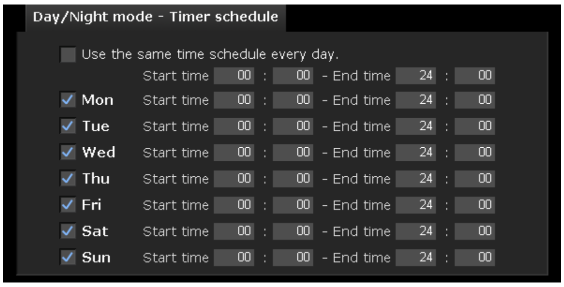
Auto: Normally works in day mode; switches automatically to night mode in a dark place.

Threshold: Set the brightness to **High** or **Low** when night mode is set.

Hold time: Set the reaction time of changes in brightness from **2 sec.** to **30 sec.**

Manual: Switch the day/night mode manually. When you select **Manual**, **On** and **Off** become active. When you select **On**, the camera works in night mode. When you select **Off**, it works in day mode.

Timer: Normally the camera works in day mode. It switches to night mode at the time you set in the Schedule menu.
Click **Schedule** to display the setting menu for the effective period. (“Setting the Schedule — Schedule Menu” on page 78)



Day/Night mode - Timer schedule

☐ Use the same time schedule every day.

	Start time	00 : 00	- End time	24 : 00	
☑ Mon	Start time	00 : 00	- End time	24 : 00	
☑ Tue	Start time	00 : 00	- End time	24 : 00	
☑ Wed	Start time	00 : 00	- End time	24 : 00	
☑ Thu	Start time	00 : 00	- End time	24 : 00	
☑ Fri	Start time	00 : 00	- End time	24 : 00	
☑ Sat	Start time	00 : 00	- End time	24 : 00	
☑ Sun	Start time	00 : 00	- End time	24 : 00	

Sensor input: Controls the day/night mode by synchronizing it with the sensor input.
While a sensor input is detected, the camera works in night mode.
The status field shows the state of the **Sensor input**.

Notes

- When Day/Night mode is set to **Auto**, Night mode is set automatically only when AGC is set to 24db or more.
- If bright light is directed at the camera while it is in night mode it may cause hunting in the camera. In such cases, switch settings according to the lighting using the **Sensor** mode, or switch the Day/Night mode using the **Manual** mode.

Easy Focus

When **Sync with Day/Night** is selected, Easy Focus will be activated once Day/Night mode switched, and the focus readjusted automatically.
For details on Easy Focus, refer to the “Focus tab — Adjusting the Focus (SNC-CH115/CH120/CH220/EB520/ZB550)” (page 39) and “Focus/Zoom tab — Adjusting the focus/zoom (SNC-CH160/CH260/DH120/DH120T/DH160/DH220/DH220T/DH260/EM520/EM521/ZM550/ZM551)” (page 40).

Notes

- When using Easy Focus, satisfactory focus may not be achieved.
- When using Easy Focus, the alarm of motion detection is deactivated.
- When using Day/Night link, confirm the focus condition under both Day and Night mode.

IR illuminator (SNC-CH160/CH260/DH160/DH260)

Sync with Day/Night: IR illuminator will be activated once Day/Night mode switched, when it is checked.

Off: IR illuminator will be always off.

Maximum Strength: From low to high, Maximum strength for IR illuminator is graded from level1 to level6.

Washed-out image control (SNC-CH160/CH260/DH160/DH260)

Setting to prevent image wash-out by the **IR illuminator** when using night mode.
This feature is activated only when **IR illuminator Sync with Day/Night** link is selected.
Select **On** to always prevent subjects becoming washed-out.

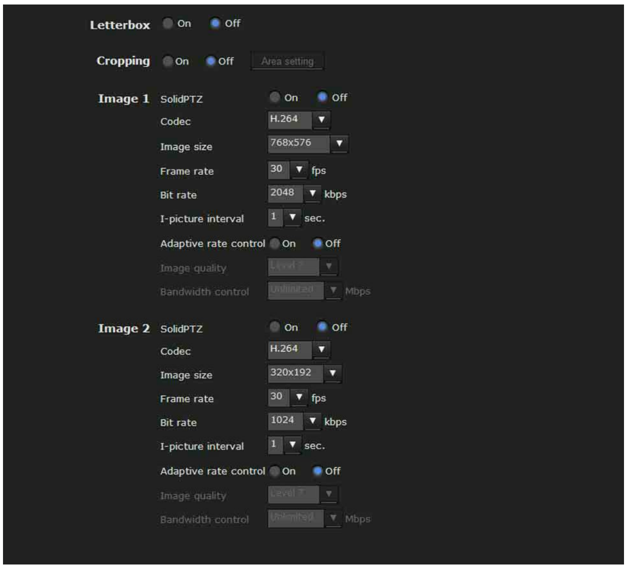
OK/Cancel

See "Buttons common to every menu" on page 32.

Video codec Tab

Use this tab to set the items for the video codec.

Display sample: SNC-CH120



Letterbox ○ On ● Off

Cropping ○ On ● Off

Image 1
SolidPTZ ○ On ● Off
Codec H.264
Image size 768x576
Frame rate 30 fps
Bit rate 2048 kbps
I-picture interval 1 sec.
Adaptive rate control ○ On ● Off
Image quality
Bandwidth control Unlimited Mbps

Image 2
SolidPTZ ○ On ● Off
Codec H.264
Image size 320x192
Frame rate 30 fps
Bit rate 1024 kbps
I-picture interval 1 sec.
Adaptive rate control ○ On ● Off
Image quality
Bandwidth control Unlimited Mbps

Note

When you change the **Video codec** setting, images from **Monitor out** or **Video out** may become momentarily unclear.

Letterbox (SNC-CH115/CH120/CH160/DH120/DH120T/DH160/ZB550/ZM550/ZM551)

If you use Letterbox, select **On**.

Notes

- This function is not available if SolidPTZ or Cropping is set to **On**.
- The motion detection function is not available if Letterbox is set to **On**.
- SNC-EB520/EM520/EM521 do not support this function.

Cropping (SNC-CH115/CH120/CH160/CH220/CH260/DH120/DH120T/DH160/DH220/DH220T/DH260/ZB550/ZM550/ZM551)

You can crop a portion of the image and display the cropped image on the computer. Cropping reduces the transmitting data size and thus the network load, and a higher frame rate is achieved.
Select **On** to crop the image, or **Off**.

Notes

- This function is not available if Letterbox or SolidPTZ is set to **On**.
- If this function is enabled, the motion detection function will not be available.
- Video 2 image is cropped with the same setting as Video 1.
- SNC-EB520/EM520/EM521 do not support this function.
- When cropping **Monitor out** or **Video out** images, the aspect ratio of the output images and the actual cropped images will differ.

To crop an image

1 Set **Cropping** to **On** and click the **Area setting** button.
The area setting window appears.

2 Setting the trimming portion
Hold down the left button of the mouse on the still image and drag the cursor diagonally. The area in a red frame is the trimming portion.

3 Click **OK** at the bottom of the window.
The cropped image is displayed on the main viewer.

4 To close the image, click ☒ in the upper-right corner.

Image 1 and Image 2

Note

When Video Out in the Installation tab is set to On, Image 2 cannot be used (SNC-ZB550/ZM550/ZM551).

SolidPTZ

Select **On** to enable the SolidPTZ function.

Notes

- This function is not available if Letterbox or Cropping are set to **On** (SNC-CH115/CH120/CH160/CH220/CH260/DH120/DH120T/DH160/DH220/DH220T/DH260).
- This function is not available if Letterbox, Cropping, or the Installation tab's **Video Out** are set to **On** (SNC-ZB550/ZM550/ZM551).
- This function is not available when the maximum image size is **1920 × 1080** in the Installation tab of the System menu (SNC-CH220/CH260/DH220/DH220T/DH260).
- If this function is enabled, the motion detection function will not be available.
- When **SolidPTZ** of **Image 1** is set to **On**, **SolidPTZ** of **Image 2** can be set to **On**.
- When **SolidPTZ** is set to **On**, **Easy Focus** may not work properly. In this case, set **SolidPTZ** to **Off**.

SolidPTZ priority (SNC-CH220/CH260/DH220/DH220T/DH260)

When **SolidPTZ** is set to **On**, select **Resolution** or **Frame rate**. This setting is applied to both Image 1 and Image 2.
When you use the SolidPTZ function, select **Resolution** to zoom the image clearly, or select **Frame rate** to shoot high-speed subjects.

Codec

Select **JPEG**, **MPEG4**, **H.264** or **OFF**. Note that Image 1 cannot be set to **Off**.

Notes

- The selectable size of images and frame rate for Image 2 may be limited depend on the setting of codec type, size of images and/or frame rate for Image 1.
- Motion detection function is not available when Image 2 is set to other than **Off**.

Image size

You can select the size of images sent from the camera. The selectable size of images are depend on the setting of maximum image size. For details on selecting maximum image size, refer to "Installation tab" in "System menu" in page 36.
When you set the different image size to Image 1 and Image 2, the available combinations are as follows:
○: Possible set ×: Impossible set △: Possible set if the resolution is the same as image1

SNC-EB520/EM520/EM521

(Maximum image size selection is not available.)

	Image 1	Image 2
800 × 600	○	△
720 × 576	○	△
720 × 480	○	△
704 × 576	○	△
640 × 480	○	○
352 × 288	○	○
320 × 240	○	○

SNC-CH115/CH120/CH160/DH120/DH120T/DH160/ZB550/ZM550/ZM551

Maximum image size [1280 × 720]

	Image 1	Image 2
1280 × 1024	×	×
1280 × 960	×	×
1280 × 800	×	×
1280 × 720	○	△
1024 × 768	×	×
1024 × 576	○	△
800 × 600	○	△
800 × 480	○	△
768 × 576	○	△
720 × 576	○	△
704 × 576	○	△
720 × 480	○	△
640 × 480	○	○
640 × 368	○	○
384 × 288	○	○
320 × 240	○	○
320 × 192	○	○

Maximum image size [1280 × 1024]

	Image 1	Image 2
1280 × 1024	○	△
1280 × 960	○	△
1280 × 800	○	△
1280 × 720	○	△
1024 × 768	○	△
1024 × 576	○	△
800 × 600	○	△
800 × 480	○	△
768 × 576	○	△
720 × 576	○	△
704 × 576	○	△
720 × 480	○	△

	Image 1	Image 2
640 × 480	○	○
640 × 368	○	○
384 × 288	○	○
320 × 240	○	○
320 × 192	○	○

SNC-CH220/CH260/DH220/DH220T/DH260

Maximum image size [1920 × 1080]

	Image 1	Image 2
1920 × 1440	×	×
1600 × 1200	×	×
1680 × 1056	○	×
1920 × 1080	○	×
1440 × 912	○	×
1376 × 768	○	×
1280 × 1024	×	×
1280 × 960	×	×
1280 × 800	○	×
1280 × 720	○	△
1024 × 768	×	×
1024 × 576	○	△
800 × 600	×	×
800 × 480	○	△
768 × 576	×	×
720 × 576	×	×
704 × 576	×	×
720 × 480	×	×
640 × 480	×	○
640 × 368	○	○
384 × 288	×	○
320 × 240	×	○
320 × 192	○	○

Maximum image size [1920 × 1440]

	Image 1	Image 2
1920 × 1440	○	×
1600 × 1200	○	×
1680 × 1056	×	×
1920 × 1080	×	×
1440 × 912	×	×
1376 × 768	×	×
1280 × 1024	○	×
1280 × 960	○	×
1280 × 800	×	×
1280 × 720	×	×
1024 × 768	○	△
1024 × 576	×	×
800 × 600	○	×
800 × 480	×	×
768 × 576	○	△
720 × 576	○	△
704 × 576	○	△
720 × 480	○	△
640 × 480	○	○
640 × 368	×	○
384 × 288	○	○
320 × 240	○	○
320 × 192	×	○

When SolidPTZ is set to On, selectable image sizes are as follows.

○: Configurable. ×: Not configurable. △: Configurable when **SolidPTZ** of Image 2 is set to **Off**.

SNC-EB520/EM520/EM521

	Image 1	Image 2
720 × 576	○	×
720 × 480	○	×
704 × 576	○	×
640 × 480	○	○
352 × 288	○	○
320 × 240	○	○

SNC-CH115/CH120/CH160/DH120/DH120T/DH160/ZB550/ZM550/ZM551

Maximum image size [1280 × 720], [1280 × 1024]

	Image 1	Image 2
768 × 576	○	×
720 × 576	○	×
720 × 480	○	×
704 × 576	○	×
640 × 480	○	○
640 × 368	○	○
352 × 288	○	○
320 × 240	○	○
320 × 192	○	○

SNC-CH220/CH260/DH220/DH220T/DH260

Maximum image size [1920 × 1440]

* **SolidPTZ** is not available for maximum image size 1920 × 1080.

	Image 1	Image 2
768 × 576	○	×

720 × 576	○	×
704 × 576	○	×
720 × 480	○	×
640 × 480	○	○
640 × 368	×	△
384 × 288	○	○
320 × 240	○	○
320 × 192	×	△

Frame rate

Set the frame rate of the image.
Selectable frame rates are as follows:
1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 16, 20, 25, 30 (fps)

“fps” is a unit indicating the number of frames transmitted per second.
Configurable frame rates are as follows:
The frame rate of JPEG image can be changed by the setting of **Image quality**.

SNC-EB520/EM520/EM521

Image size [800 × 600]

	Image 1		Image 2	
	Codec	Frame rate (fps)	Codec	Frame rate (fps)
Single codec	H.264	30	-	
	MPEG4	30	-	
	JPEG	30	-	
Dual codec	H.264	30	H.264	25
	H.264	30	JPEG	25
	H.264	30	MPEG4	30
	MPEG4	30	MPEG4	30
	MPEG4	30	JPEG	25
	JPEG	30	JPEG	25

SNC-CH115/CH120/CH160/DH120/DH120T/DH160/ZB550/ZM550/ZM551

Image size [1280 × 720]

	Image 1		Image 2	
	Codec	Frame rate (fps)	Codec	Frame rate (fps)
Single codec	H.264	30	-	
	MPEG4	30	-	
	JPEG	30	-	
Dual codec	H.264	25	H.264	5
	H.264	25	JPEG	10
	H.264	25	MPEG4	6
	MPEG4	30	MPEG4	10
	MPEG4	30	JPEG	16
	JPEG	30	JPEG	30

Image size [1280 × 1024]

	Image 1		Image 2	
	Codec	Frame rate (fps)	Codec	Frame rate (fps)
Single codec	H.264	20	-	
	MPEG4	25	-	
	JPEG	30	-	
Dual codec	H.264	15	H.264	6
	H.264	15	JPEG	12
	H.264	15	MPEG4	8
	MPEG4	20	MPEG4	8
	MPEG4	25	JPEG	6
	JPEG	30	JPEG	12

SNC-CH220/CH260/DH220/DH220T/DH260

When image size of image 1 is “1920 × 1080”; the image size of image 2 is “640 × 480”

	Image 1		Image 2	
	Codec	Frame rate (fps)	Codec	Frame rate (fps)
Single codec	H.264	30	-	
	MPEG4	20	-	
	JPEG	16	-	
Dual codec	H.264	25	H.264	20
	H.264	25	JPEG	30
	H.264	25	MPEG4	25
	MPEG4	20	MPEG4	30
	MPEG4	20	JPEG	30
	JPEG	16	JPEG	30

When image size of image 1 is “1920 × 1440”; the image size of image 2 is “640 × 480”

	Image 1		Image 2	
	Codec	Frame rate (fps)	Codec	Frame rate (fps)
Single codec	H.264	20	-	
	MPEG4	16	-	
	JPEG	12	-	
Dual codec	H.264	20	H.264	12
	H.264	20	JPEG	30
	H.264	20	MPEG4	16
	MPEG4	15	MPEG4	30
	MPEG4	15	JPEG	30
	JPEG	12	JPEG	30

Bit rate

Set the bit rate of MPEG4 or H.264 image transmission for a line. When the bit rate is set to a high level, better image quality can be enjoyed.

Selectable bit rates are as follows:
64, 128, 256, 384, 512, 768, 1024, 1536, 2048, 3072, 4096, 5120, 6144, 7168, 8192 (kbps)

Note

When Video Output in the Installation tab is set to On, Image 2 cannot be used (SNC-ZB550/ZM550/ZM551).

I-picture interval

Set the I-picture insertion interval.

Adaptive rate control

This function adjusts the frame rate and the bit rate automatically so that the camera plays back a smooth image to suit the connected computer environment. If **On** is selected, the MPEG4 or H.264 image rate is automatically adjusted.

Notes

- The actual frame rate and bit rate may be different depending on the image size, shooting scene, or network condition.
- When **Adaptive rate control** is set to **On**, the actual frame rate and bit rate change within the range that does not exceed the values set in **Frame rate** and **Bit rate**.

Image quality

Set the JPEG image quality.
Selectable values are from **Level 1** to **Level 10**.
When **Level 10** is selected, the best image quality is achieved.

Bandwidth control

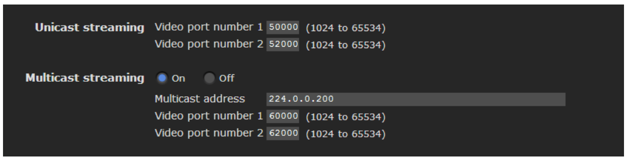
Limits the network bandwidth for the JPEG image data output from the camera.

OK/Cancel

See “Buttons common to every menu” on page 32.

Streaming Tab

Use this tab to set the items for the transmission by unicast or multicast.



Unicast streaming
Video port number 1 50000 (1024 to 65534)
Video port number 2 52000 (1024 to 65534)

Multicast streaming ● On ○ Off
Multicast address 224.0.0.200
Video port number 1 60000 (1024 to 65534)
Video port number 2 62000 (1024 to 65534)

Unicast streaming

Specify the transmission port numbers of the MPEG4/H.264 video data to be used when **Unicast** is selected from the **Connection** drop-down list in the **Other** panel on the main viewer.

Video port number 1, 2

Specify the transmission port number of the MPEG4/H.264 video data. It is initially set to 50000.
Specify an even number from 1024 to 65534. Two port numbers (the number specified here and an odd number with 1 added to the specified number) are actually used for video data communication and control.
The setting for Image 1 and Image 2 apply for Video port number 1 and 2 respectively.

Note

Specify different numbers for the video port number.

Multicast streaming

Set whether the camera uses multicast streaming for MPEG4/H.264 video data or not. It reduces the transmission load on the camera by having a computer of the same segment network receive the same transmitting data.
Select **On** to allow, or **Off** not to allow multicast sending.
When you select **On**, set **Multicast address** and **Video port number 1** and **2** properly.

Multicast address

Type the multicast address used on the multicast streaming.

Video port number 1, 2

Specify the MPEG4/H.264 video transmission port number used for the multicast streaming. It is initially set to 60000. Specify an even number from 1024 to 65534. Two port numbers (the number specified here and an odd number with 1 added to the specified number) are used for video data communication and control.
The setting for Image 1 and Image 2 apply for Video port number 1 and 2 respectively.

Note

Specify different numbers for the video port number.

OK/Cancel

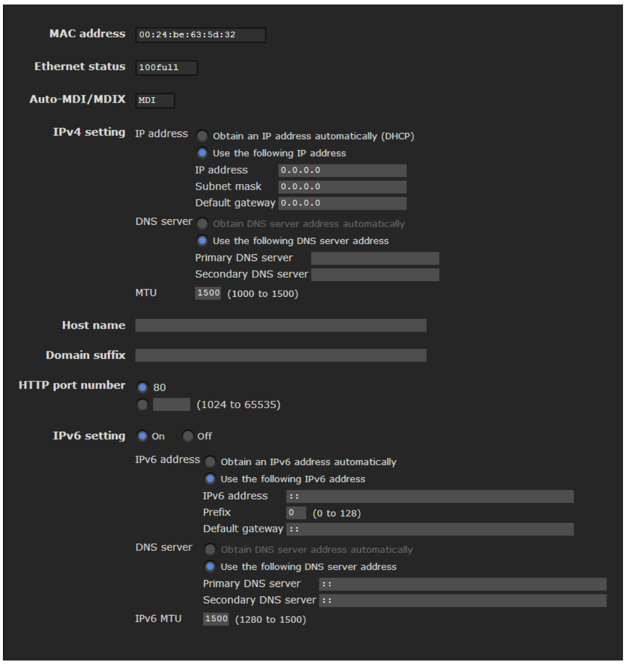
See “Buttons common to every menu” on page 32.

Configuring the Network — Network Menu

When you click **Network** in the Administrator menu, the Network menu appears.
Use this menu to configure the network to connect the camera and the computer.
The Network menu consists of three tabs: **Network**, **QoS** and **Dynamic IP address notification**.

Network Tab

This section provides the menus for connecting the camera through the network cable.



MAC address 00:24:be:63:5d:32

Ethernet status 100full

Auto-MDI/MDIX MDI

IPv4 setting IP address ○ Obtain an IP address automatically (DHCP)
● Use the following IP address
IP address 0.0.0.0
Subnet mask 0.0.0.0
Default gateway 0.0.0.0
DNS server ○ Obtain DNS server address automatically
● Use the following DNS server address
Primary DNS server
Secondary DNS server
MTU 1500 (1000 to 1500)

Host name

Domain suffix

HTTP port number ● 80
○ (1024 to 65535)

IPv6 setting ● On ○ Off
IPv6 address ○ Obtain an IPv6 address automatically
● Use the following IPv6 address
IPv6 address ::
Prefix 0 (0 to 128)
Default gateway ::
DNS server ○ Obtain DNS server address automatically
● Use the following DNS server address
Primary DNS server ::
Secondary DNS server ::
IPv6 MTU 1500 (1280 to 1500)

MAC address

Displays the MAC address of this unit.

Ethernet status

Displays the current transmission rate.
This is displayed when the network change selection switch is set to LAN. This is not displayed when it is set to SLOC. (SNC-ZB550/ZM550/ZM551)

Auto-MDI/MDIX

According to the port of the connected Ethernet device, automatically switches the port of the unit between MDI and MDI-X for transmission.
Displays the Ethernet port mode of the unit.
This is displayed when the network change selection switch is set to LAN. This is not displayed when it is set to SLOC. (SNC-ZB550/ZM550/ZM551)

Network type (SNC-ZB550/ZM550/ZM551)

Displays the network type.
SLOC is displayed when the network change selection switch is set to SLOC, and LAN is displayed when the network change selection switch is set to LAN.

IPv4 setting

Configure the IPv4 network setting.

IP address

Configure the IP address.

Obtain an IP address automatically (DHCP): Select this option when a DHCP server is installed on the network to allow IP address assignment. With this setting, the IP address is assigned automatically.

Note

When you select **Obtain an IP address automatically (DHCP)**, make sure that a DHCP server is operating on the network.

Use the following IP address: Select this option when you set a fixed IP address. With this setting, specify the **IP address**, **Subnet mask** and **Default gateway** manually.

IP address

Type the IP address of the camera.

Subnet mask

Type the subnet mask.

Default gateway

Type the default gateway.

DNS server

Configure the DNS server address.

Obtain DNS server address automatically: Select this option to obtain the IP address of DNS server automatically. It can be set only when **Obtain an IP address automatically (DHCP)** is selected in the Network tab.

Note

When you select **Obtain DNS server address automatically**, make sure that a DHCP server is operating on the network.

Use the following DNS server address: Select this when you set a fixed address as the IP address of the DNS server. With this setting, specify the addresses on **Primary DNS server** and **Secondary DNS server** manually.

Primary DNS server

Type the IP address of the primary DNS server.

Secondary DNS server

Type the IP address of the secondary DNS server, if necessary.

MTU

Enter the MTU value for the Ethernet port. (1000 - 1500)
If IPv6 is enabled, the value must be 1280 or greater.

Host name

Type the host name of this unit to be transmitted to the DHCP server. This setting is valid only when **Obtain an IP address automatically (DHCP)** is selected in the Network tab.

Domain suffix

Type the domain suffix of this unit to be transmitted to the DHCP server. This setting is valid only when **Obtain an IP address automatically (DHCP)** is selected in the Network tab.

Note

The domain suffix is sent to the DHCP server as FQDN (Fully Qualified Domain Name) information when **Host name** is set.

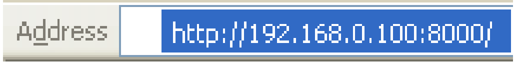
HTTP port number

Normally select **80**. If you want to use a port number other than 80, select the text box and type a port number between 1024 and 65535.

Note

When you have set the **HTTP port number** to a number other than 80 in the Network menu or in SNC toolbox, access the camera again by typing the IP address of the camera on your Web browser as follows:

Example: Setting port number 8000 when IP address is 192.168.0.100



Address http://192.168.0.100:8000/

IPv6 setting

Configure the IPv6 network settings.
IPv6 can be used simultaneously with IPv4.
Only IPv6-specific details are explained here. For common details, see "IPv4 setting" on page 49.

On/Off

To use IPv6, select **On**.

Prefix

Enter the Prefix value. (0 to 128)

IPv6 MTU

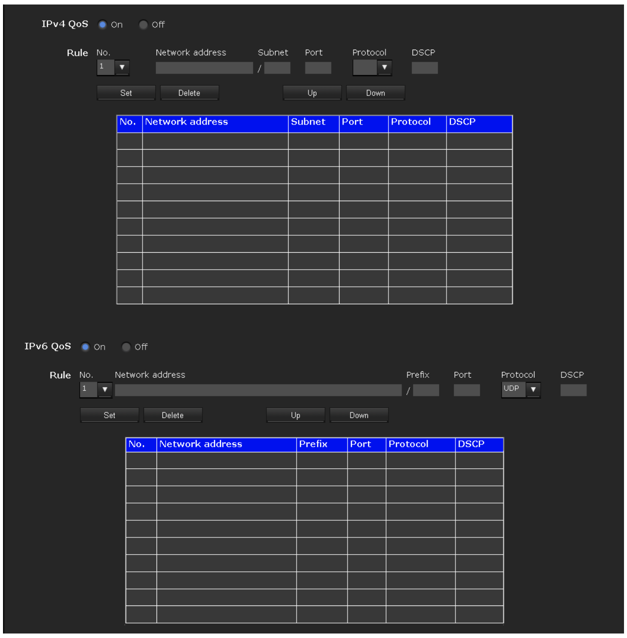
Enter the MTU value for IPv6. (1280 -1500)
The value must not exceed the MTU value for the Ethernet port.

OK/Cancel

See "Buttons common to every menu" on page 32.

QoS Tab

In this tab, you can mark the data traffic packets sent from the device and configure the settings for QoS control. Rules for the types of data traffic can be created using IPv4/IPv6 address, port number, protocol, etc. A maximum of 10 rules can be registered for IPv4 and IPv6, respectively.



IPv4 QoS ● On ○ Off

IPv6 QoS ● On ○ Off

Protocol: UDP

IPv4 QoS

Select **On** to configure the QoS setting for IPv4.

Rule

Used to register, edit and delete QoS.

No.

Select the number to use when registering on the QoS table.
When you select a registered number, the registered QoS information is displayed.

Network address

Enter the network address of the target on which to perform QoS.

Subnet
Enter the subnet mask values of the target on which to perform QoS.

Tip

The subnet mask value represents the number of bits from the left side of the network address.

Port
Enter the port number for the data traffic of the device (e.g. HTTP:80).

Protocol
Select the protocol.

DSCP
Set a value to mark the data traffic (0 ~ 63).
This value is set in the DSCP field included in the IP header of the data traffic.

Set
Used when registering on the QoS table.
QoS is set according to the following procedure:

1. Select No. from **No.** and enter the necessary conditions for **Network address**, **Subnet**, **Protocol** and/or **Port No.**.
2. Enter values in **DSCP**.
3. Click **Set** and configure the QoS.

Delete
select **No.** to delete the setting and click **Delete**.

Up
Increases the priority of the rule.
Select a rule from the QoS table to prioritize and click **Up**.

Down
Decreases the priority of the rule.
Select a rule from the QoS table to lower its priority and click **Down**.

QoS table
Displays the list of registered QoS information. If multiple conditions match, the rule with the smallest number has priority.

IPv6 QoS

Select **On** to configure the QoS setting for IPv6.

Rule
Used to register, edit and delete QoS.

No.
Select the number to use when registering on the QoS table.
When you select a registered number, the registered QoS information is displayed.

Network address
Enter the network address of the target on which to perform QoS.

Prefix
Enter the prefix value of the target on which to perform QoS.

Tip

The prefix value represents the number of bits from the left side of the network address.

Port
Enter the port number for the data traffic of the device (e.g. HTTP:80).

Protocol
Select the protocol.

DSCP
Set a value to mark the data traffic (0 ~ 63).
This value is set in the DSCP field included in the IP header of the data traffic.

Set
Used when registering on the QoS table.
QoS is set according to the following procedure:

1. Select the number you want to register from **No.** and enter the necessary conditions for **Network address**, **Prefix**, **Protocol** and **Port No.**.
2. Enter values in **DSCP**.
3. Click **Set** and configure the QoS.

Delete
select **No.** to delete the setting and click **Delete**.

Up
Increases the priority of the rule.
Select a rule from the QoS table to prioritize and click **Up**.

Down
Decreases the priority of the rule.
Select a rule from the QoS table to lower its priority and click **Down**.

QoS table

Displays the list of registered QoS information. If multiple conditions match, the rule with the smallest number has priority.

Tip

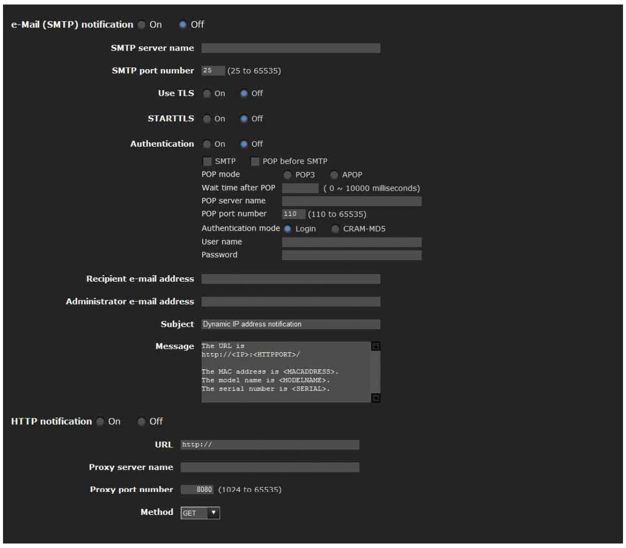
To attain QoS of data traffic, the target device must be connected to a router or switch that supports the QoS function.

OK/Cancel

See "Buttons common to every menu" on page 32.

Dynamic IP address notification Tab — Notifying the IP Address

When **Obtain an IP address automatically (DHCP)** is selected in the Network tab, you can send notification of completion of the network settings using the SMTP or HTTP protocol.



e-Mail (SMTP) notification ○ On ● Off
SMTP server name
SMTP port number: 25 (25 to 65535)
Use TLS ○ On ● Off
STARTTLS ○ On ● Off
Authentication ○ On ● Off
☐ SMTP ☐ POP before SMTP
POP mode ○ POP3 ○ APOP
Wait time after POP (0 ~ 10000 milliseconds)
POP server name
POP port number: 110 (110 to 65535)
Authentication mode ● Login ○ CRAM-MD5
User name
Password
Recipient e-mail address
Administrator e-mail address
Subject: Dynamic IP address notification
Message:

```
The URL is
http://<IP>:<HTTPPORT>/

The MAC address is <MACADDRESS>.
The model name is <MODELNAME>.
The serial number is <SERIAL>.
```

HTTP notification ○ On ○ Off
URL: http://
Proxy server name
Proxy port number: 8080 (1024 to 65535)
Method: GET

e-Mail (SMTP) notification

Select **On** to send an e-mail when the DHCP setting is completed.

SMTP server name

Type the name or IP address of the SMTP server for sending an e-mail, using up to 64 characters.

SMTP port number

Enter a port number from 25 to 65535.
The standard port number is 25. If TLS is enabled, the standard port number for SMTPs is 465.

Use TLS

To use the encryption function by TLS, set to **On**.

Note

The model on sale in China does not support the TLS function.

STARTTLS

To use the encryption function by STARTTLS, set to **On**.

Note

The model on sale in China does not support the STARTTLS function.

Authentication

Select the authentication required when you send an e-mail.

Off: Select if no authentication is required when an e-mail is sent.

On: Select if authentication is required when an e-mail is sent. Select one of the authentication methods from the following and specify the **POP server name**, **User name** and **Password** as required.

- **SMTP:** Select when SMTP authentication is required.
- **POP before SMTP:** Select when POP before SMTP authentication is required.

Note

When you set **Authentication** to **On**, make sure to select either or both **SMTP** or/and **POP before SMTP**.

POP mode

Select POP3 or APOP as the authentication method for POP authentication.

Note

The model on sale in China does not support the APOP authentication.

Wait time after POP

Set the waiting time in **POP before SMTP** before SMTP authentication after POP authentication is completed. Timeout can be set from 0 to 10,000 msec.

POP server name

It is necessary when **POP before SMTP** is selected for **Authentication**.
Type the POP (receiving mail) server name, using up to 64 characters. Or type the IP address of the POP server. This setting is necessary when the SMTP server that sends e-mails performs authentication using the POP user account.

POP port number

Enter a port number from 110 to 65535.

The standard port number is 110. If TLS is enabled, the standard port number for POP3s is 995.

Authentication mode

Select **Login** or **CRAM-MD5** as the authentication method for SMTP authentication.

Note

The model on sale in China does not support the CRAM-MD5 authentication.

User name, Password

Type the user name and password of the owner of the mail account, using up to 64 characters. This setting is necessary when the SMTP server that sends e-mails performs authentication.

Recipient e-mail address

Type the recipient e-mail address, using up to 64 characters. You can specify only one recipient e-mail address.

Administrator e-mail address

Type the e-mail address of the camera administrator, using up to 64 characters. This is used as the reply address or the address for a system mail from the mail server.

Subject

Type the subject/title of the e-mail, using up to 64 characters.

Message

Type the text of the e-mail using up to 384 characters. (A line break is equivalent to 2 characters.) You can describe the information of the acquired IP address, etc., using the special tags mentioned below.

HTTP notification

Select **On** to output a command to the HTTP server when the DHCP setting is completed. Using this function, you can configure a useful system, for example, to view the access log stored in the HTTP server, or start an external CGI program.

URL

Specify the URL to send an HTTP request, using up to 256 characters. The URL is normally written as follows:

http://ip_address[:port]/path?parameter

ip_address: Type the IP address or host name of the host to which you want to connect.
To enter an IPv6 address:
http:// [IPv6 address]
http:// [IPv6 address]: port

[:port]: Specify the port number to which you want to connect. If you want to use the established port number 80, you do not need to input a value.

path: Type the command.

parameter: Type the command parameter if necessary. You can use the special tags mentioned below for the parameters.

Proxy server name

When you send an HTTP request via a proxy server, type the name or IP address of the proxy server, using up to 64 characters.

Proxy port number

Specify the port number when you send an HTTP request via the proxy server. Set a port number between 1024 and 65535.

Method

Select the HTTP method **GET** or **POST**.

OK/Cancel

See "Buttons common to every menu" on page 32.

About the special tags

You can use the following five special tags to allow notification of the settings acquired by DHCP, such as an IP address. Type the tags in the parameter section of the URL that you described in the Message field of the HTTP.

<IP>

Use this tag to embed the IP address acquired by DHCP in the text or parameter.

<HTTPPORT>

Use this tag to embed the specified HTTP server port number in the text or parameters.

<MACADDRESS>

Use this tag to embed the MAC address of the interface, whose IP address was acquired by DHCP, in the text or parameter.

<MODELNAME>

Use this tag to embed the camera's model name in the text or parameter.

<SERIAL>

Use this tag to embed the camera's serial number in the text or parameter.

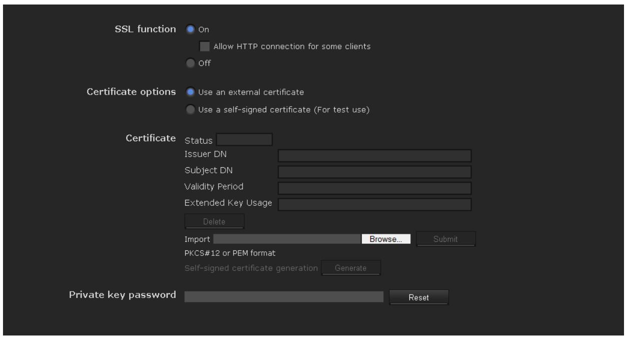
Setting the SSL function — SSL Menu

When you click **SSL** in the Administrator menu, the SSL menu appears.
Use this menu to configure the SSL or TLS function. (called “SSL” hereafter)
The settings allows the camera to communicate with the client PC by using SSL.
SSL menu **consists of the Common** tab and **CA certificate** tab.

Notes

- The model on sale in China does not support the SSL function.
- When using the SSL function, always configure the settings after setting the date and time of the camera. If the date and time are not correctly set, it may cause browser connection problems.

Common tab



SSL function ● On
☐ Allow HTTP connection for some clients
○ Off

Certificate options ● Use an external certificate
○ Use a self-signed certificate (For test use)

Certificate
Status
Issuer DN
Subject DN
Validity Period
Extended Key Usage
Import
PKCS#12 or PEM format
Self-signed certificate generation

Private key password

SSL function

On: Select this to use the SSL function. When **Allow HTTP connection for some clients** is selected, both HTTP and SSL connections are allowed. When **Allow HTTP connection for some clients** is not selected, only SSL connection is allowed.

When Internet Explorer 6 is used
When SSL session is established, 🔒 appears in the status bar on your web browser.

When Internet Explorer 7, Internet Explorer 8 or Internet Explorer 9 is used
When SSL session is established, 🔒 appears in the right of the address bar on your web browser.

Off: Select this to not use the SSL function. Only HTTP connection is allowed with the camera.

When you use SSL connection for the first time

When you use SSL connection only with the SSL function **On**, you cannot access the camera if the SSL function does not work properly.
In this case, you must reset the camera to the factory settings. (All settings will be initialized.)
To avoid this, check that SSL connection is possible by performing the following steps.

1. Set the SSL function to **On**, and select **Allow HTTP connection for some clients**.
2. Click **OK** to close the main viewer and the setting window.
3. Display the main viewer in SSL connection. Refer to “Using the SSL function” on page 16 for connection.
4. After checking that SSL connection is possible, cancel **Allow HTTP connection for some clients** selected in step 1.

Even if the setting window or the browser is closed as SSL connection is impossible, http connection will be possible if **Allow HTTP connection for some clients** is selected. First check the setting contents of SSL tab in http connection, then check the SSL connection again.

If **Allow HTTP connection for some clients** is not selected, you will not be able to access the camera if SSL connection becomes impossible. In this case, turn on the power of the main unit while pressing the reset switch on the camera to initialize. For details, refer to the supplied Installation Manual.

Note

SSL connection will load the camera down; therefore, not all images may be downloaded, and the ☒ mark may appear when the camera accesses the setting window from the browser. In this case, reload the window. Press the F5 key on the keyboard to reload.

Certificate options

Select an installation mode of the certificate.

Use an external certificate: Uses the certificate including private key information issued by a CA. The PKCS#12 and PEM formats are supported.

Note

SSL is not available when **Certificate options-Use an external certificate** is selected, or certificate and private key password is not set properly even SSL is set to “**ON**”

Use a self-signed certificate (For test use): This mode uses the certificate and private key pair generated by "Generating a self-signed certificate" on page 55. Private key information corresponding to the certificate is stored in the camera.
You do not need to install an external certificate. However, you cannot execute the existence proof that is one of the SSL functions for the following reasons.
- The private key generated in the camera is self-signed by the camera.
- A prepared value is set for a distinguished name (Common name, etc).
- The certificate is not issued by a trusted CA.

For reasons of security, we recommend using this mode only when there is no problem even if perfect security is not saved.

Notes

- When **Use a self-signed certificate (For test use)** is selected, the **Security Alert** dialog appears on the SSL connection with a browser.
  For details, refer to "Using the SSL function" (page 16).
- SSL connection may be impossible due to the type of certificate installed in the camera. In this case, refer to "How to install the CA certificate" on page 57 and install.

Certificates

Import, display or delete the certificate.

To import the certificate

Click **Browse...** to select the certificate to be imported.
Click **Submit** to import the certificate, and the selected file to the camera.

Note

The import process becomes invalid if the selected file is not a certificate or the imported certificate is not allowed.

Generating a self-signed certificate

A self-signed certificate can be generated in the camera to be used when **Use a self-signed certificate (For test use)** is selected from **Certificate options**.
Click **Generate** to generate a self-signed certificate in the camera. Clicking **Generate** again after **Generate** has been clicked once will update the self-signed certificate stored in the camera.

Note

Make sure to set the date and time on the camera correctly before performing this operation. If the date and time are not correctly set, it may cause browser connection problems.

To display certificate information

When the certificate has been set in the camera correctly, its information appears on **Status, Issuer DN**, **Subject DN**, **Validity Period** and **Extended Key Usage**.

Status

Shows if the status of the certificate is valid or invalid. The following statuses are recognised.

Valid: The certificate is correctly stored and set.
Invalid: The certificate is not correctly stored and set. Possible causes are as follows:
- **Use an external certificate** is selected and the private key password included in the certificate is not specified correctly.
- **Use an external certificate** is selected and the private key password is specified in spite of the fact that the key pair in the certificate is not encrypted.
- **Use an external certificate** is selected and the key pair is not included in the certificate.
- **Use a self-signed certificate (For test use)** is selected without the self-signed certificate being generated.

Note

When the certificate to be imported is of PKCS#12 format and the private key password is not set correctly, <Put correct private key password> is displayed in the boxes of **Issuer DN**, **Subject DN**, **Validity Period** and **Extended Key Usage**. Specify the correct private key password to confirm the information of the certificate.

To delete the imported certificate or self-signed certificate

Click **Delete** to delete the certificate or self-signed certificate imported to the camera.

Private key password

Type the password for the private key information included in the certificate using up to 50 characters. This text box is active only when **Certificate options** is set to **Use an external certificate**.
Leave the text box blank if the private key information included in the certificate is not encrypted.
If no private key password is set in the camera, an active text field is displayed and this allows a password to be entered.
If a private key password is already set, it is displayed as an inactive text field.

Reset

To change the private key password, click this button. The current password is cleared and the password text box becomes active to allow a new password entry.

Note

Click Cancel at the bottom of the menu if you want to cancel changing the private key password after clicking **Reset**. Doing so restores the other setting items in the Client certificate tab to the previous settings.

OK/Cancel

See “Buttons common to every menu” on page 32.

Note

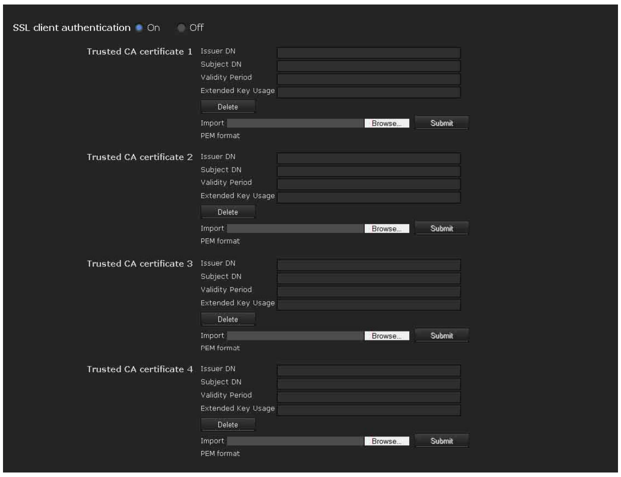
When you click **OK** after changing SSL setting, close the main viewer and the setting window once.

CA certificate tab — Adding the CA certificate for client authentication

In this tab, you can manage the CA certificate needed for the camera to use the client authentication of the SSL function.

Note

When using the client authentication, the personal certificate must be successfully installed on the PC to use it. If this preparation cannot be performed, do not configure settings on this tab. Otherwise, you may not be able to connect to the camera.



SSL client authentication ● On ○ Off

SSL client authentication

You can configure whether to enable the client authentication of the SSL function.

Trusted CA certificate 1 to 4

You can import a trusted CA certificate (route certificate, etc.) to the camera.
Up to four certificates from trusted CAs can be imported to the camera. Only PEM format is supported.

To import the CA certificate

1. Click **Browse…** to select the CA certificate to be saved in the camera.
2. Click **Submit**
   The selected file will be imported to the camera.

Note

Import process will be invalid if the selected file is not a CA certificate.

To display the information of the CA certificate

When the CA certificate has been saved in the camera correctly, its information appears on **Issuer DN**, **Subject DN**, **Validity Period**, and **Extended Key Usage** for your reference.

To delete the CA certificate

Click **Delete** to delete the selected CA certificate from the camera.

Tip

To enable a client certificate, it is recommended that the settings are configured following the procedure below:

① **Import the necessary CA certificate.**

② **Set SSL client authentication to On and click OK.**

Note

When you set SSL client authentication to **On** and click **OK**, the camera will immediately operate to enable client authentication. Make sure that the personal certificate on your PC is successfully installed.

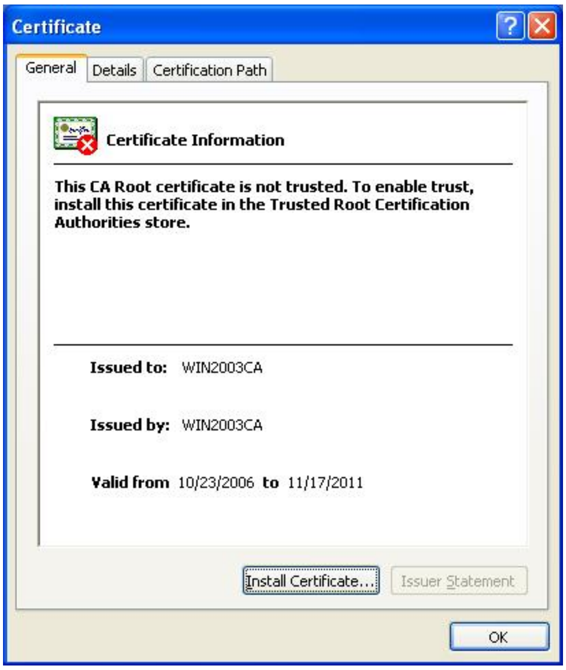
OK/Cancel

See “Buttons common to every menu” on page 32.

How to install the CA certificate

The camera may not be connected because the browser (Internet Explorer) does not display whether the certificate will be accepted or not due to the type of certificate. In this case, install the CA certificate as follows.

1 Save in the PC the certificate of CA which has signed the certificate to be installed in the camera. The extension of the certificate file is normally ".cer". Double-click this file. The following **Certificate** dialog appears.


Certificate
General
Details
Certification Path
Install Certificate...
Issuer Statement
OK

Certificate Information

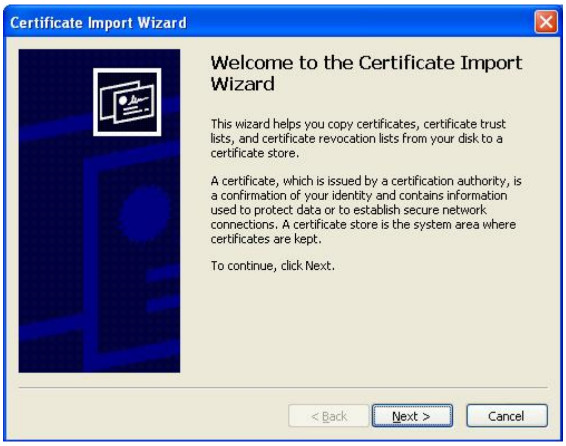
This CA Root certificate is not trusted. To enable trust, install this certificate in the Trusted Root Certification Authorities store.

Issued to: WIN2003CA

Issued by: WIN2003CA

Valid from 10/23/2006 to 11/17/2011

2 Click **Installation Certificate...**.
The **Certificate Import Wizard** appears.


Certificate Import Wizard
< Back
Next >
Cancel

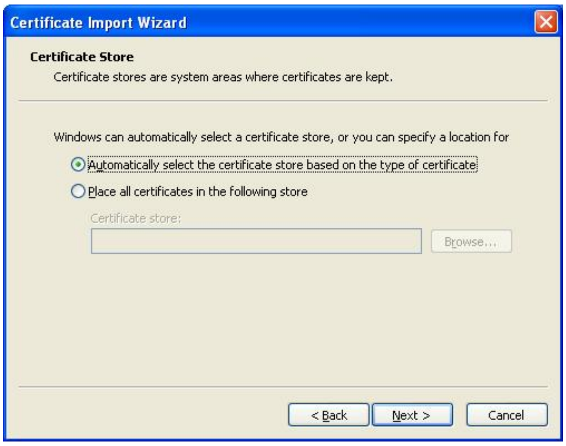
Welcome to the Certificate Import Wizard

This wizard helps you copy certificates, certificate trust lists, and certificate revocation lists from your disk to a certificate store.

A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.

To continue, click Next.

3 Click **Next**.


Certificate Import Wizard
Browse...
< Back
Next >
Cancel

Certificate Store

Certificate stores are system areas where certificates are kept.

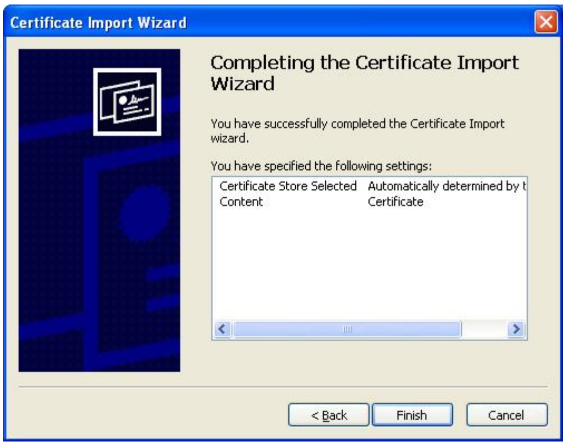
Windows can automatically select a certificate store, or you can specify a location for

● Automatically select the certificate store based on the type of certificate

○ Place all certificates in the following store

Certificate store:

4 Select **Automatically selects the certificate store based on the type of certificate** and click **Next**. **Completing the Certificate Import Wizard** appears.


Certificate Import Wizard
< Back
Finish
Cancel

Completing the Certificate Import Wizard

You have successfully completed the Certificate Import wizard.

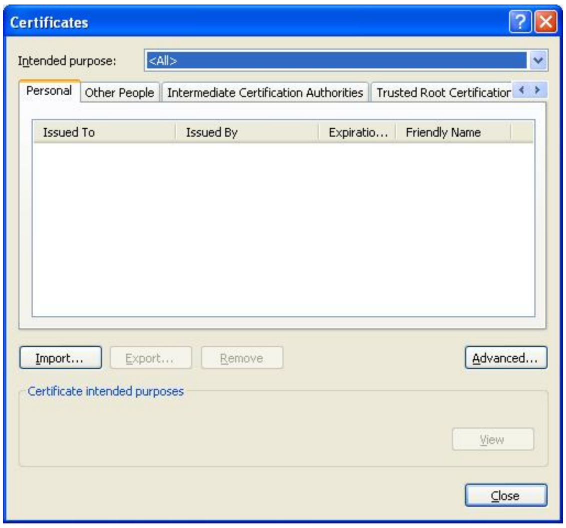
You have specified the following settings:

Certificate Store Selected	Automatically determined by t
Content	Certificate

5 Check the contents, then click **Finish**.
The CA certificate will be installed.

To remove an installed CA certificate

1 In Internet Explorer, click in the order **Tools**, **Internet options**, **Content tab** and **Certificates**. The **Certificates** dialog appears.


Certificates
Personal
Other People
Intermediate Certification Authorities
Trusted Root Certification
Issued To
Issued By
Expiratio...
Friendly Name
Import...
Export...
Remove
Advanced...
Certificate intended purposes
View
Close

Intended purpose: <All>

2 Select the certificate you want to remove. The CA certificate is usually stored in **Trusted Root Certification Authorities**.

3 Click **Remove**. **Do you want to delete the certificate** appears to confirm.

4 Click **Yes**. The certificate will be removed. There may be a case that a certificate cannot be removed by the steps above due to the type of certificate. Check the installation condition and remove it following the steps below.

Note

You need to log in as Administrator to perform these steps.

1 Open **Run...** of the Windows menu, then enter **mmc** and click **OK**.

2 Select **File** in the **Console 1** window and **Add/ Remove Snap-in...** (when Windows XP Professional is used) **Add/Remove Snap-in...** dialog appears.

3 Click **Add** to display **Add Stand-alone Snap-in** dialog. You need to follow this step if using Windows XP Professional.

4 Select **Certificates** from the list, then click **Add**. **Certificate Snap-in** is displayed.

5 Select **Computer account** as the certificate administrated in this Snap-in, then click **Next**.

6 Select **Local Computer** as the computer administrated in this Snap-in, then click **Finish**.

7 Close **Add Standalone Snap-in** (for Windows XP Professional only) and **Add/Remove Snap-in...** dialogs. The items for administrating **Certificates** appears in the **Console Route** window. Confirm the relevant certificate, then remove it.

Using the 802.1X Authentication Function

— 802.1X Menu

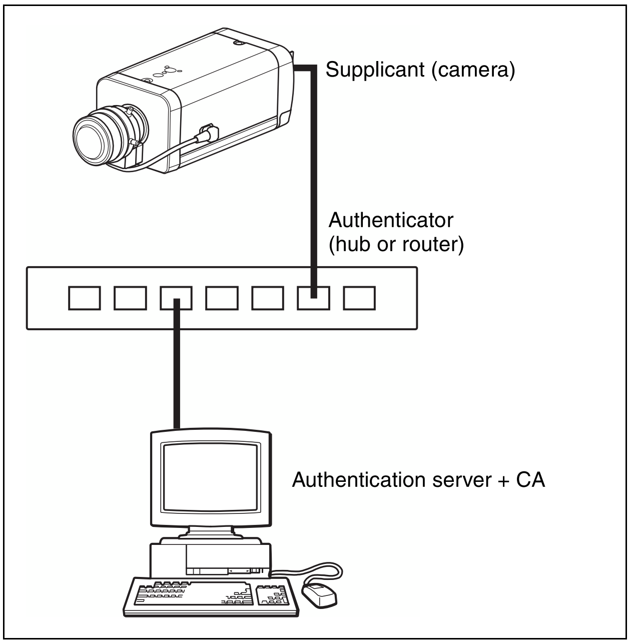
When you click **802.1X** in the Administrator menu, the 802.1X menu appears.
Use this menu to configure the wired port-based authentication in compliance with the 802.1X standard.
The 802.1X menu consists of three tabs: **Common**, **Client certificate** and **CA certificate**.

Notes

- To use the 802.1X authentication function, you need knowledge of the 802.1X authentication (WPA and WPA2) and digital certificate. To establish an 802.1X network, you need to configure the authenticator, authentication server and other elements. For details on these settings, refer to the manual of the corresponding equipment.
- When using the 802.1X authentication function, always configure the settings after setting the date and time of the camera. If the date and time are incorrect, port authentication may not be performed correctly.

System configuration of 802.1X network

The following figure shows a general system configuration of an 802.1X network.



Supplicant

A supplicant is a device that connects to the authentication server to join the network. This unit serves as a supplicant in the 802.1X network. The supplicant can enter the 802.1X network after appropriate authentication by the authentication server.

Authenticator

An authenticator forwards certificate request data or response data that the supplicant or authentication server issues to the other party. Normally a hub or router serves as an authenticator.

Authentication server

An authentication server has a database of connecting users and verifies if the supplicant is a valid user or not. It can also be called RADIUS server.

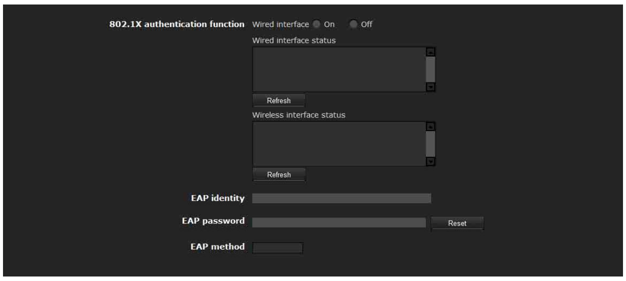
CA (Certificate Authority)

A CA issues and manages certificates of the authentication server (CA certificates) and user certificates. The CA is essential for certificate-based user authentication. Normally a CA is located inside an authentication server.

Note

This camera supports EAP mode in which the supplicant and the server authenticate using the certificate. This mode requires a CA to issue the certificate.

Common Tab — Basic setting of 802.1X authentication function


802.1X authentication function
Wired interface ○ On ○ Off
Wired interface status
Refresh
Wireless interface status
Refresh
EAP identity
EAP password
Reset
EAP method

802.1X authentication function

This item is used for enabling/disabling the 802.1X authentication function for wired ports. The wired interface status can also be checked here.

Wired interface

To activate the 802.1X authentication function for wired ports, select **On**.

Wired interface status

Shows the authentication status of the 802.1X authentication function for wired ports.
Click **Refresh** to update the status.

EAP identity

Type the user name to identify the client in the 802.1X authentication server using 3 to 253 characters.

EAP password

A supplicant EAP password is needed to be inputted when PEAP is selected with EAP condition. The password can contain half-width letters and the length should be between 1 to 50.

Reset

To change the once set EAP password, click **Reset** and clear the current password. A new password can be entered.

Note

After you click **Reset**, if you wish to cancel the EAP password change, click **Cancel** at the bottom of the screen. This will cancel other changes made to the settings.

EAP method

You can select the authentication method used with the authentication server. This device supports TLS and PEAP.

TLS: By this method, the supplicant and the server authenticate each other using a certificate. This enables secure port authentication.

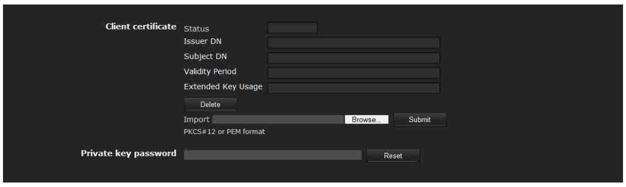
PEAP: By this method, an EAP password is used for the supplicant authentication and a certificate is used for server authentication.

OK/Cancel

See “Buttons common to every menu” on page 32.

Client certificate Tab

When TLS is selected as the EAP method, client certificate is imported for authentication at the camera.



Client certificate

Import, display or delete the client certificate.

To import the client certificate

Click **Browse…** to select the client certificate to be imported.
Then click **Submit**, and the selected file will be imported to the camera.

Note

The import process becomes invalid if the selected file is not a client certificate or the imported client certificate is not allowed.

To display the information of the client certificate

When the client certificate has been saved in the camera correctly, its information appears on **Status**, **Issuer DN**, **Subject DN**, **Validity Period** and **Extended Key Usage**.

Status: Shows if the status of the client certificate is valid or invalid.
Valid means the client certificate is correctly stored and set.
Invalid means the client certificate is not correctly stored and set.
Possible causes of **Invalid** are as follows:
- The private key password included in the client certificate is not specified correctly.
- The private key password is specified in spite of the fact that the key pair in the client certificate is not encrypted.
- The key pair is not included in the client certificate.

Note

When the client certificate to be imported is of PKCS#12 format and the private key password is not set correctly, "<Put correct private key password>" is displayed in the boxes of **Issuer DN**, **Subject DN**, **Validity Period** and **Extended Key Usage**. Specify the correct private key password to confirm the information of the certificate.

To delete the client certificate

Click **Delete**, and the client certificate stored in the camera will be deleted.

Private key password

Type the password for the private key information included in the client certificate using up to 50 characters.
Leave the text box blank if the private key information included in the client certificate is not encrypted.
If no private key password is set in the camera, the text box is activated to allow entering of a password.
If a private key password is already set, it is displayed as turned letters.

Reset

To change the private key password, click this button. The current password is cleared and the password text box is actived to allow new password entry.

Note

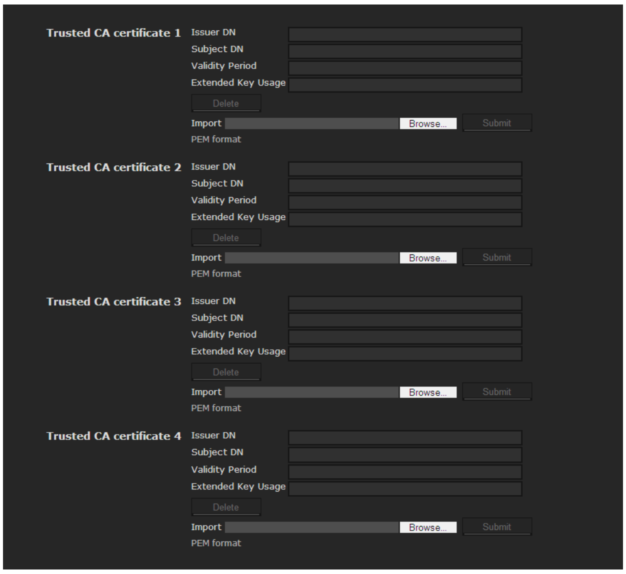
Click **Cancel** at the bottom of the menu if you want to cancel changing the private key password after clicking **Reset**. Doing so restores the other setting items in the Client certificate tab to their previous settings.

OK/Cancel

See "Buttons common to every menu" on page 32.

CA certificate Tab

You can import a trusted CA certificate (server certificate or route certificate) to the camera. Up to four certificates from trusted CAs can be imported to the camera. Only the PEM format is supported.


Trusted CA certificate 1
Issuer DN
Subject DN
Validity Period
Extended Key Usage
Delete
Import
Browse...
Submit
PEM format
Trusted CA certificate 2
Issuer DN
Subject DN
Validity Period
Extended Key Usage
Delete
Import
Browse...
Submit
PEM format
Trusted CA certificate 3
Issuer DN
Subject DN
Validity Period
Extended Key Usage
Delete
Import
Browse...
Submit
PEM format
Trusted CA certificate 4
Issuer DN
Subject DN
Validity Period
Extended Key Usage
Delete
Import
Browse...
Submit
PEM format

To import the CA certificate

Click **Browse…** to select the CA certificate to be imported.
Then click **Submit**, and the selected file will be imported to the camera.

Note

Import process becomes invalid if the selected file is not a CA certificate.

To display the information of the CA certificate

When the CA certificate has been saved in the camera correctly, its information appears on **Issuer DN**, **Subject DN**, **Validity Period** and **Extended Key Usage**.

To delete the CA certificate

Click **Delete**, and the CA certificate stored in the camera will be deleted.

Setting the 802.1X authentication function — Example of Windows Server 2003

This section explains how to configure the authentication server and CA using Microsoft Windows Server 2003.

Note

As this section describes authentication based on the user interface in English on Windows Server 2003, the UI terminology and page configuration may be different depending on the version of the Operating System or Service Pack and patch update status.

Before setting

Perform the following settings before configuring an 802.1X network.

Active Directory (domain controller)

The following setting example is based on the assumption that the Active Directory has been configured.

Windows IAS configuration

Configure **Remote access/VPN server** in **Manage Your Server** of Windows Server 2003. Open **Add or Remove Programs** from **Control Panel** of Windows menu. Install **Internet Authentication Service** in **Add/ Remove Windows Components**.

CA configuration

To configure the CA, perform the following steps:

1. Open **Add or Remove Programs** from **Control Panel** of the Windows menu.
2. Select **Add/Remove Windows Components**.
3. Add **Certificate Services** in the Component menu.
4. Select **Enterprise root CA** on **CA Type**.
5. Type the CA name on **Common Name for this CA**, and configure the CA.

Creating a security group for Active Directory

1. Open **Active Directory Users and Computers** from **Administrative Tools** of the Windows menu.
2. Select **Users** of the domain with which you want to perform 802.1X connection.
3. Select **New** from the context menu, then select **Group** and configure the group for 802.1X connection.
   For example, the group "Wired_802.1X_Group" is assumed for explanation purposes.

Configuring the Internet Authentication Service

1. Open **Internet Authentication Service** from **Administrative Tools** of the Windows menu.
2. Click **Register Server in Active Directory** on the operation menu.
3. Read the displayed precautions carefully and click **OK** to accept them.

Then, continue to configure the EAP-TLS policy.

4. Select **Remote Access Policy** and right-click.
5. Select **New** from the context menu, and select **Remote Access Policy** to open "New Remote Access Policy Wizard".
6. Select **Set up a custom policy**.
7. Set the following items:
   Policy name: Type "Allow 802.1X Access" as an example.
   Policy conditions: Click **Add** and add the following items:
   - NAS Port-Type: Ethernet, Wireless-IEEE802.11, Wireless-Other and Virtual (VPN)
   - Windows-Groups: Wired_802.1X_Group

   Permissions: Select **Grant remote access permission**.
   Edit Profile:
   - Dial-in Constraints tab: Specify the session time out period during which the client is allowed to be connected, as required.
   - Authentication tab: Delete checks from all the boxes. Click **EAP Method** and add **Smart Card or other certificates**.

Then, continue to configure the RADIUS client.

8. Select **RADIUS Clients** and right-click.
9. Select **New RADIUS Client** from the context menu.

10 Set the following items:
Friendly name: Type "authenticator" as an example.
Client address (IP or DNS): IP address of the authenticator
Client-Vender: RADIUS Standard
Shared secret: Specify the shared secret to be set in the authenticator.

Adding a user

1 Open **Active Directory Users and Computers** from **Administrative Tools** of Windows menu.

2 Select **Users** of the domain with which you want to add a user and right-click.

3 Select **New** from the context menu, then select **User**.

4 Set the following items to configure a new user: For example, the log-on user name "1XClient" is assumed for explanation purposes.
First name: 1XClient
User logon name: 1XClient@<domain name>
Password: Specify a password. Then select **Password never expires** in account options.

5 Select the user to be added and right-click.

6 Select **Properties** from the context menu.

7 Set the following items:
Dial-in tab: Select **Allow access** in **Remote Access Permission (Dial-in or VPN)**
Member Of tab: Add "Wired_802.1X_Group".

The preparations for configuring a 802.1X network are now completed.
Proceed to issue the certificate to be imported to the camera.

Issuing the CA certificate

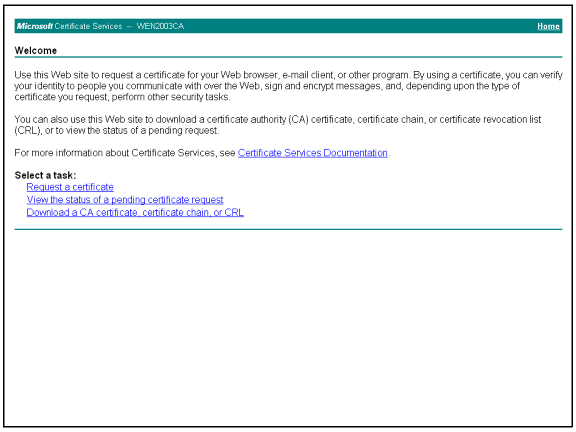
Prepare a Windows client PC (called "client PC" hereafter) to temporarily store the certificate, and configure so that the client PC and Windows Server 2003 computer can be connected through the network.

1 Start Internet Explorer on the client PC.

2 Type the CA's URL in the address bar, and click **Go To**.
The CA's URL is normally as follows:

http: //<address of the CA>/CertSrv/

The "Microsoft Certificate Services" page opens.



Use this Web site to request a certificate for your Web browser, e-mail client, or other program. By using a certificate, you can verify your identity to people you communicate with over the Web, sign and encrypt messages, and, depending upon the type of certificate you request, perform other security tasks.

You can also use this Web site to download a certificate authority (CA) certificate, certificate chain, or certificate revocation list (CRL), or to view the status of a pending request.

For more information about Certificate Services, see Certificate Services Documentation.

Select a task:
Request a certificate
View the status of a pending certificate request
Download a CA certificate, certificate chain, or CRL

Note

If the Microsoft Certificate Service page does not appear using the URL above, check the following:

- Is the service of Web site enabled on Internet Information Service (IIS)?
- Is Certificate Services enabled?
- Does the firewall or antivirus software setting on the client PC block connection?
- Are the network configuration and Internet Explorer settings on the client PC correct?

3 When Internet Explorer prompts entering the log-in user and password, type the user name as follows.
Example: when the user name is "1XClient" and the domain name "localnetwork.net"

1XClient@localnetwork.net

4 Click **Download a CA certificate, certificate chain, or CRL**.

5 Select **Base 64** in **Encoding method** and click **Download CA certificate**.
The "File Download" dialog opens.

6 Specify the file storage location and save the CA certificate.

After saving the CA certificate, import it to the camera.
The CA certificate import procedure is completed.

Downloading the client certificate

This section explains the procedure to downloading the client certificate.

1 Start Internet Explorer on the client PC and type the CA's URL in the address bar.
The CA's URL is normally as follows:

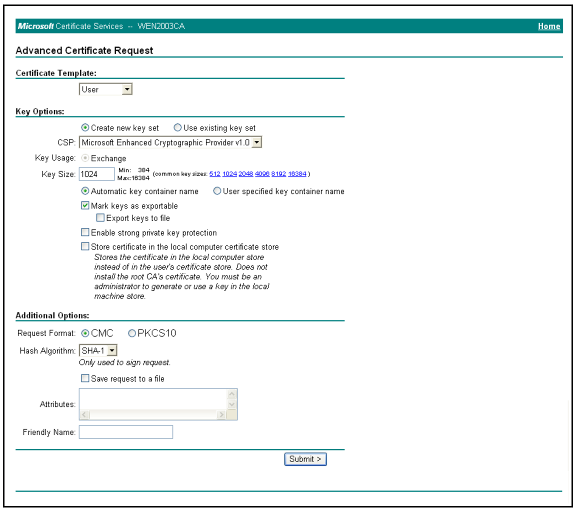
http: //<address of the CA>/CertSrv/

2 Click **Go To**.

3 Type the log-in user name and password correctly. The “Microsoft Certificate Services” page opens.

4 Click **Request a certificate**, **advanced certificate request** and **Create and submit a request to this CA** in sequence.

5 Set the following items.



Microsoft Certificate Services -- WEN2003CA

Advanced Certificate Request

Certificate Template:
User

Key Options:
● Create new key set ○ Use existing key set
CSP: Microsoft Enhanced Cryptographic Provider v1.0
Key Usage: ● Exchange
Key Size: 1024 Min: 384 Max:16384 (common key sizes: 512 1024 2048 4096 8192 16384)
● Automatic key container name ○ User specified key container name
☑ Mark keys as exportable
☐ Export keys to file
☐ Enable strong private key protection
☐ Store certificate in the local computer certificate store
Stores the certificate in the local computer store instead of in the user's certificate store. Does not install the root CA's certificate. You must be an administrator to generate or use a key in the local machine store.

Additional Options:
Request Format: ● CMC ○ PKCS10
Hash Algorithm: SHA-1
Only used to sign request.
☐ Save request to a file
Attributes:
Friendly Name:

Certificate Template: User
Key Options: Create new key set
– CSP: Microsoft Enhanced Cryptographic Provider v1.0
– Key Size: 1024
– Check **Mark keys as exportable**.
Additional Options: Select **SHA-1** for **Hash Algorithm**.

6 Click **Submit**.
The message “The certificate you requested was issued to you.” appears.

7 Click **Install this certificate.** to install the certificate in the certificate store on the client PC.

8 Click **Internet Options**, **Content** and **Certificates** of Internet Explorer in sequence.
The new client certificate is displayed in the Personal tab.

9 Select the installed certificate and click **Export...**.
The “Certificate Export Wizard” opens.

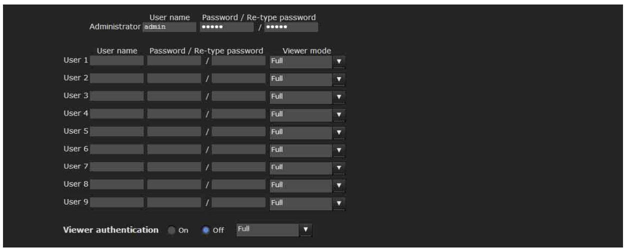
10 Click **Next** and select as follows.
Do you want to export the private key with the certificate?: Select **Yes, export the private key.**
Select the format you want to use: Select **Personal Information Exchange – PKCS#12(PFX)**.
Password: Specify the private key password.
File to export: Specify the name of the file to be exported.

The certificate is exported. Import the exported file to the camera as the camera’s client certificate.
For details, see “To import the client certificate” in the Client certificate tab on page 60.

Setting the User

— User Menu

When you click **User** in the Administrator menu, the User menu appears.
Use this menu to set the user names and passwords of Administrator and up to 9 kinds of users (User 1 to User 9), and the access right of each user.



	User name	Password / Re-type password	
Administrator	admin	•••••	/ •••••

	User name	Password / Re-type password		Viewer mode
User 1			/	Full ▼
User 2			/	Full ▼
User 3			/	Full ▼
User 4			/	Full ▼
User 5			/	Full ▼
User 6			/	Full ▼
User 7			/	Full ▼
User 8			/	Full ▼
User 9			/	Full ▼

Viewer authentication ○ On ● Off Full ▼

Administrator

Specify **User name**, **Password** and **Re-type password**.

User 1 to 9

Specify **User name**, **Password**, **Re-type password** and **Viewer mode** for each user ID.

User name

Type a user name between 5 and 16 characters.

Password

Type a password between 5 and 16 characters.

Re-type password

To confirm the password, retype the password that you typed in the **Password** box.

Viewer mode

When the user is authenticated for logging in the main viewer, select the viewer mode to be displayed after authentication.

Full: The user can operate all functions in this mode.
Pan/Tilt: In addition to the **Light** mode, the user can operate pan/tilt/zoom.
Preset position: In addition to the **Light** mode, the user can perform the camera's preset position settings.
Light: In addition to the **View** mode, the user can select the image size of the main viewer, select codec and capture a still image.
View: The user can only monitor the camera image.

For the functions available for each viewer mode, see "Administrator and User" on page 19.

Viewer authentication

Set whether the user is authenticated or not when the main viewer is displayed.

On: The main viewer is displayed in accordance with the viewer mode of the authenticated user.
Off: Select the viewer mode of the main viewer which is displayed without authentication from **Full**, **Pan/Tilt**, **Preset position**, **Light** or **View**.

OK/Cancel

See "Buttons common to every menu" on page 32.

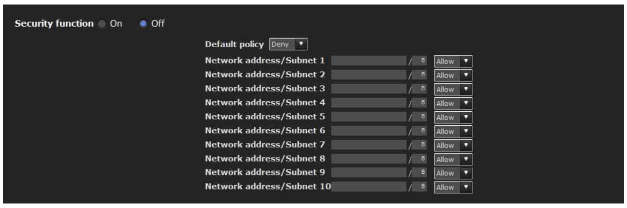
Setting the Security

— Security Menu

When you click **Security** in the Administrator menu, the Security menu appears.

This allows you to control which computers can have access to the camera.

Likewise, when using IPv6, security settings can be configured for each network.



Security function ○ On ● Off

Default policy: Deny

Network address/Subnet 1 / 8 Allow

Network address/Subnet 2 / 8 Allow

Network address/Subnet 3 / 8 Allow

Network address/Subnet 4 / 8 Allow

Network address/Subnet 5 / 8 Allow

Network address/Subnet 6 / 8 Allow

Network address/Subnet 7 / 8 Allow

Network address/Subnet 8 / 8 Allow

Network address/Subnet 9 / 8 Allow

Network address/Subnet 10 / 8 Allow

Security function

To activate the security function, select **On**.

Default policy

Select the basic policy of the limit from **Allow** and **Deny** for the computers specified in the Network address/ Subnet 1 to Network address/Subnet 10 menus below.

Network address/Subnet 1 to Network address/Subnet 10

Type the network addresses and subnet mask values that you want to allow or deny access to the camera.

You can specify up to 10 network addresses and subnet mask values. For a subnet mask, type 8 to 32.

(In the case of IPv6, enter a value between 8 and 128.)

Select **Allow** or **Deny** from the drop-down list on the right for each network address/subnet mask.

Tip

The subnet mask value represents the bit number from the left of the network address.

For example, the subnet mask value for “255.255.255.0” is 25.

If you set **192.168.0.0/24** and **Allow**, you can allow access from computers having an IP address between “192.168.0.0” and “192.168.0.255”.

Note

You can access the camera even from a computer having an IP address whose access right is set to **Deny**, if you enter the user name and password set for the **Administrator** boxes in the User menu.

OK/Cancel

See “Buttons common to every menu” on page 32.

Saving the Camera Position and Action —

Preset position Menu

When you click **Preset position** in the Administrator menu, the Preset position menu appears. This allows you to save the camera’s pan, tilt and zoom positions and set position (programmed action of the camera).

The Preset position menu consists of 2 tabs: **Position** and **Preset tour**.

The Preview screen is displayed.

Every setting item can be set to Image 1 and Image 2 respectively.

Notes

- Preset position menu is not available when **SolidPTZ** is set to **On** in the Camera menu-Video codec tab.
- Only Image 1 can be set when **SolidPTZ** of Image 2 is set to **Off**.

Position Tab — Saving pan/tilt/ zoom position

You can save up to camera positions (pan, tilt and zoom positions).

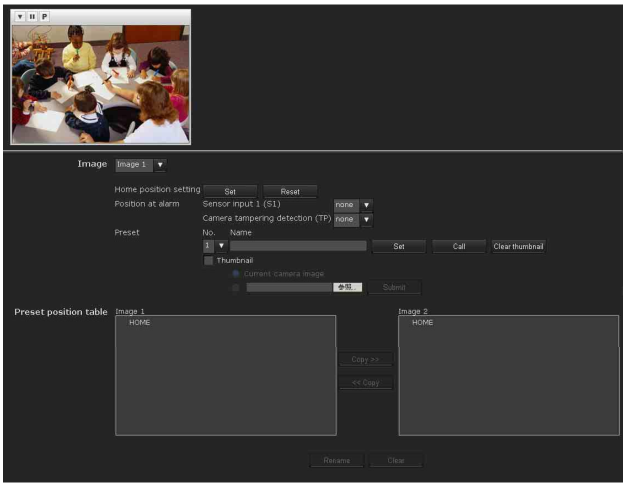


Image: Image 1

Home position setting

Position at alarm: Sensor input 1 (S1) none; Camera tampering detection (TP) none

Preset: No. 1, Name

☐ Thumbnail

● Current camera image

Preset position table: Image 1: HOME; Image 2: HOME

Preview screen

This screen is for monitoring images and setting preset positions.

For details of each button, please refer to the Control bar of the Plug-in free viewer (page 23).

Image

Select the image to configure.

Home position setting

Set the current camera position as the home position.

Set

Click to save the current pan, tilt and zoom positions as the home position. To move the camera to the home position, click ■ in the control panel (page 22).

Reset

Click to reset the home position to the factory-set position.

Position at alarm

This unit can synchronize a preset position with Sensor input or with Camera tampering detection.
If an alarm is detected by the sensor input or the camera tampering detection function, the camera automatically moves to the corresponding preset position.
If you do not want to synchronize with any preset number, select **none**.

Sensor input 1 (S1)

Select a preset position to synchronize with the alarm from Sensor input 1.

Camera tampering detection (TP)

Select the preset position to synchronize with the camera tampering detect alarm.

Preset

You can configure and save preset positions and thumbnails. Click **Call** to move the camera to a specified preset position and click **Clear thumbnail** to delete the thumbnail information for the specified preset position.

No.

Select a preset number from **1** to **8** from the drop-down list.

Name

Type the preset position name of the selected preset number using up to 32 characters.

Set

Click to save the current camera position to the selected preset number.
To save a preset position, operate as follows:

1. Move the camera to the position to be saved, while checking the image with the preview viewer.
2. Select a preset number for saving, and type the preset position **Name**.
3. Click the **Set** button.
   The camera position is saved.

Call

Click to move the camera to the preset position.

Clear Thumbnail

Click to delete the thumbnail of the specific preset position.

Thumbnail

Checking this checkbox registers a thumbnail when you register a preset position.
Select a radio button to determine whether to register the current camera image as a thumbnail or to register with a specified image.
To specify an image, click **Browse**. Then click **Submit**.

Note

The maximum file size for images in JPEG format is approximately 50 KB.

Preset position list

By clicking Preset, you can view the information of the preset positions.

Copy

You can copy the preset position of Video 1 and Video 2. Select the preset position you want to copy, and then.

Rename

Select the preset position you want to rename, and then click Rename. You can enter characters. Press the enter (return) key to confirm.

Clear

You can delete preset positions.

OK/Cancel

See “Buttons common to every menu” on page 32.

Note

Only the setting items of **Position at Alarm** can be saved or cancelled by clicking **OK/Cancel**.

Preset tour Tab — Setting a position tour

The camera moves to the programmed positions sequentially (Tour).
Up to five programs can be set as Tours A to E.

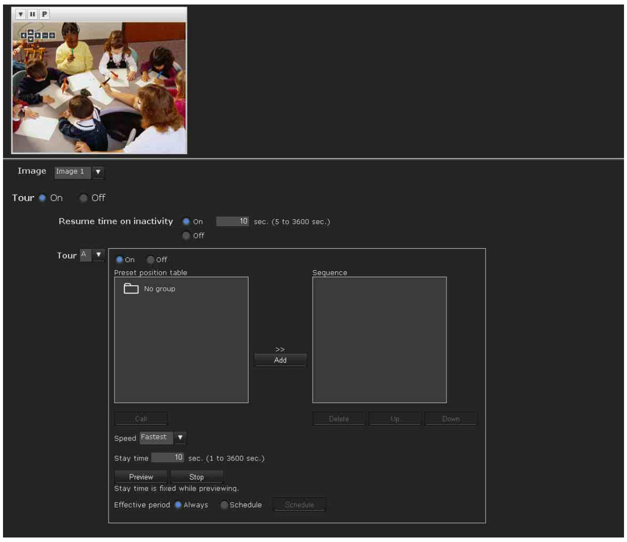


Image: Image 1

Tour ● On ○ Off

Resume time on inactivity ● On 10 sec. (5 to 3600 sec.) ○ Off

Tour A ● On ○ Off

Speed: Fastest

Stay time 10 sec. (1 to 3600 sec.)

Stay time is fixed while previewing.

Effective period ● Always ○ Schedule

Preview screen

This screen is for monitoring images and configuring preset tour settings.
For details of each button, please refer to the Control bar of the Plug-in free viewer (page 23).

Image

Select the image to configure.

Tour

Select **On** to enable the tour function.

Resume time on inactivity

This item becomes active when **Tour** is set to **On**.
With this item, you can select whether you restart or stop the tour after it has stopped by manual pan, tilt or zoom operation or by camera movement to the preset position triggered by an alarm.

On: Specify the wait time before the tour restarts, between 5 and 3600 seconds. The tour restarts automatically after the specified time has elapsed.
Off: The tour does not restart.

Tour A to Tour E

Configure Tour A to Tour E respectively.
Each tour setting consists of 5 items: **On/Off**, **Sequence**, **Speed**, **Stay time**, **Effective period**.
Select the tour to configure from the drop-down list.

On: The tour operates.
Off: The tour does not operate.

Note

If nothing is added to the **Sequence** list and you click **OK** when **On** is selected, the tour function will fail.

Sequence

Set the sequence of the tour.
The preset positions saved using the Position tab are displayed in **Preset position list**.
Select the preset position from **Preset position list**, then click Add. The selected preset position is added in the Sequence list. Repeat this procedure to specify the preset positions in sequence.
To check a preset position, select it from **Preset position list**, and then click **Call**.
To delete a preset position from **Sequence**, select it, and then click **Delete**.
To change the order in **Sequence**, select the preset position and then click **Up** or **Down**.

Speed

Select the speed of camera movement between **1** and **23,** or **Fastest** from the drop-down list. The camera moves faster with a higher number setting. The fastest speed is obtained with **Fastest**.

Stay time

Type a period of time during which the camera is to stay at each preset position, between **1** and **3600** seconds.

Preview

Previews the order of movements of the selected tour. The operation speed and stop time do not influence the preview operation.

Stop

Stops the preview in action.

Effective period

Select the period during which the tour in activated.

Always: The tour can be activated any time.
Schedule: The tour is activated according to the schedule you have set.
Click **Schedule**, and the menu for the effective period is displayed. (“Setting the Schedule — Schedule Menu” on page 78.)

Note

You cannot set tours if the effective periods overlap each other.

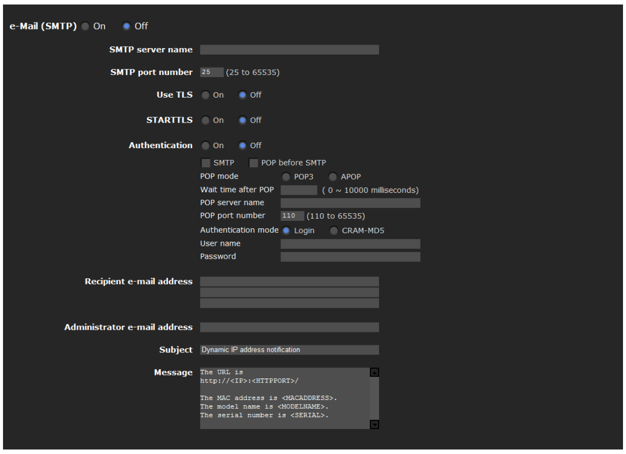
OK/Cancel

See "Buttons common to every menu" on page 32.

Sending an Image via E-mail — e-Mail (SMTP) Menu

When you click **e-Mail (SMTP)** in the Administrator menu, the e-Mail (SMTP) menu appears.
Using the e-Mail (SMTP) function, you can send an e-mail with an attached image file that has been shot linked with an external sensor input or with the built-in detection functions. An image file can also be sent periodically.
The e-Mail (SMTP) menu consists of three tabs: **Common**, **Alarm sending** and **Periodical sending**.

Common Tab — Setting the e-Mail (SMTP) Function



e-Mail (SMTP) ○ On ● Off

SMTP server name

SMTP port number 25 (25 to 65535)

Use TLS ○ On ● Off

STARTTLS ○ On ● Off

Authentication ○ On ● Off

☐ SMTP ☐ POP before SMTP

POP mode ○ POP3 ○ APOP

Wait time after POP (0 ~ 10000 milliseconds)

POP server name

POP port number 110 (110 to 65535)

Authentication mode ● Login ○ CRAM-MD5

User name

Password

Recipient e-mail address

Administrator e-mail address

Subject Dynamic IP address notification

Message

```
The URL is
http://<IP>:<HTTPPORT>/

The MAC address is <MACADDRESS>.
The model name is <MODELNAME>.
The serial number is <SERIAL>.
```

e-Mail (SMTP)

Select **On** when you use the e-Mail (SMTP) function.

Note

The frame rate and operability on the main viewer may be reduced while a file is being transmitted by the e-Mail (SMTP) function.

SMTP server name

Type the SMTP server name using up to 64 characters, or the IP address of the SMTP server.

SMTP port number

Enter a port number from 25 to 65535.
The standard port number is 25. If TLS is enabled, the standard port number for SMTPs is 465.

Use TLS

To use the encryption function by TLS, select **On**.

Note

The model on sale in China does not support the TLS function.

STARTTLS

To use the encryption function by STARTTLS, select **On**.

Note

The model on sale in China does not support the STARTTLS function.

Authentication

Select whether authentication is required when you send an e-mail.

Off: No authentication is required when an e-mail is sent.

On: Authentication is required when an e-mail is sent. Select one of the authentication methods from the following and specify the **POP server name**, **User name** and **Password** as required.

- **SMTP:** Select when SMTP authentication is required.
- **POP before SMTP:** Select when POP before SMTP authentication is required.

Note

When you set **Authentication** to **On**, be sure to select either or both **SMTP** or/and **POP before SMTP**.

POP mode

Select POP3 or APOP as the authentication method for POP authentication.

Note

The model on sale in China does not support the APOP authentication.

Wait time after POP

Set the waiting time in **POP before SMTP** before SMTP authentication after POP authentication is completed. Timeout can be set from 0 to 10,000 msec.

POP server name

This is necessary when **POP before SMTP** is selected for **Authentication**.
Type the POP (receiving mail) server name using up to 64 characters, or type the IP address of the POP server. This setting is necessary when the SMTP server that sends e-mails performs authentication using the POP user account.

POP port number

Enter a port number from 110 to 65535.
The standard port number is 110. If TLS is enabled, the standard port number for POP3s is 995.

Authentication mode

Select **Login** or **CRAM-MD5** as the authentication method for SMTP authentication.

Note

The model on sale in China does not support the CRAM-MD5 authentication.

User name, Password

Type the user name and password of the user who owns the mail account using up to 64 characters. This setting is necessary when the SMTP server that sends e-mails performs authentication.

Recipient e-mail address

Type the recipient e-mail address using up to 64 characters.
You can specify up to three recipient e-mail addresses.

Administrator e-mail address

Type the Administrator e-mail address using up to 64 characters.
This address is used for reply e-mails and sending system messages from the mail server.

Subject

Type the subject/title of the e-mail using up to 64 characters.
When **Alarm sending** of the Alarm sending tab is set to **On**, an e-mail sent in response to alarm detection will indicate the type of alarm in the subject. **(S1)** is added for sensor input detection, **(TP)** for camera interference detection, **(MD)** is additionally available for motion detection.

Message

Type the text of the e-mail using up to 384 characters. (A line break is equivalent to 2 characters.)

OK/Cancel

See “Buttons common to every menu” on page 32.

Alarm sending Tab — Setting the e-mail sending mode when detecting the alarm

Set to send an e-mail linked with alarm detection by the external sensor input or by the built-in detection functions.

Note

When more than two of the following settings are activated, the camera only creates two still images at the same time. A third still image cannot be created unless one of the previous two still images is sent.

e-Mail (SMTP) menu

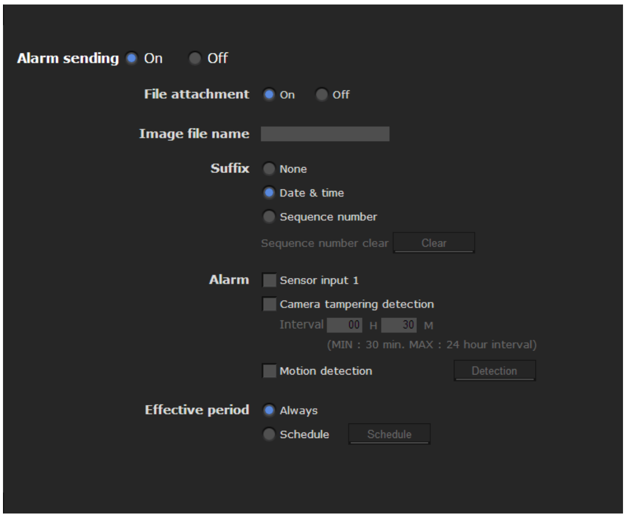
– Alarm sending tab **Alarm sending** (when file attachment is set to On).
– Periodical sending **Periodical sending**

FTP client menu

– Alarm sending tab **Alarm sending**
– Periodical sending **Periodical sending**

Trigger menu

– **Mail (SMTP)**
– **FTP Client**



Alarm sending ● On ○ Off
File attachment ● On ○ Off
Image file name
Suffix ○ None ● Date & time ○ Sequence number
Sequence number clear
Alarm ☐ Sensor input 1 ☐ Camera tampering detection
Interval 00 H 30 M
(MIN : 30 min. MAX : 24 hour interval)
☐ Motion detection
Effective period ● Always ○ Schedule

Alarm sending

Select **On** to set sending an e-mail linked with alarm detection.

File attachment

Set whether an image file (JPEG file) is to be attached to the e-mail or not.
When **On** is selected, the image file made using the settings below is attached. When **Off** is selected, only the message is sent.

Image file name

Type the file name you want to assign to the image to be attached to an e-mail. You can use up to 10 alphanumeric characters, – (hyphen) and _ (underscore) for naming.

Suffix

Select a suffix to be added to the file name.

None: No suffix is added. The image file name is assigned to the image to be sent via e-mail.

Date & time: The date & time suffix is added to the image file name.
The date/time suffix consists of lower two-digits of the year (2 digits), month (2 digits), date (2 digits), hour (2 digits), minute (2 digits), second (2 digits), and sequential number (2 digits), thus adding 14-digit number to the image file name.

Sequence number: A sequential number of 10 digits between 0000000001 and 4294967295 and two fixed digits 00 are added to the image file name.

Sequence number clear

Click **Clear** to reset the **Sequence number** suffix to 1.

Alarm

Select the alarm to be linked with e-mail notification.

Sensor input 1: The external sensor that is connected to sensor input of the camera I/O port.

Camera tampering detection: An alarm that is triggered when the camera detects tampering such as direction shifting or spray.

Interval: Set the interval at which you want to send an e-mail periodically after detection.
E-mails are sent after a specified interval time until the Camera tampering detection setting is cleared or the detection setting is turned off. You can set the hour (H) and minutes (M) between 30 minutes and 24 hours (one day).
When file attachment is set to ON, a file is only attached to an initial mail and will not be attached to the following mails.

Motion detection: The alarm detected by the motion detection function.
Click **Detection**, and the motion detection menu is displayed to allow you to set the motion detection function (page 78).

Effective period

Set the period during which alarm detection is effective.

Always: Alarm detection is always effective.
Schedule: You can specify the period during which alarm detection is effective.
Click **Schedule** and the menu for the effective period is displayed. (“Setting the Schedule — Schedule Menu” on page 78)

OK/Cancel

See “Buttons common to every menu” on page 32.

Periodical sending Tab — Setting the periodical e-mail sending mode

You can set to send e-mails periodically.

Note

When more than two of the following settings are activated, the camera only creates two still images at the same time. A third still image cannot be created unless one of the previous two still images is sent.

e-Mail (SMTP) menu

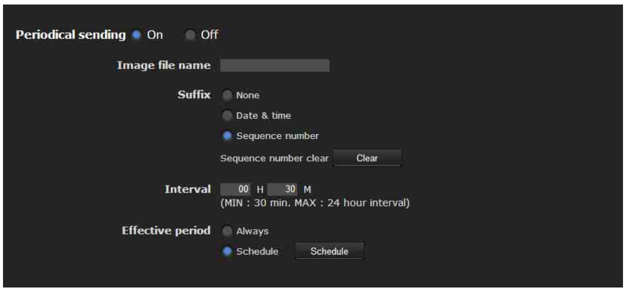
- Alarm sending tab **Alarm sending** (when file attachment is set to On).
- Periodical sending **Periodical sending**

FTP client menu

- Alarm sending tab **Alarm sending**
- Periodical sending **Periodical sending**

Trigger menu

- **Mail (SMTP)**
- **FTP Client**



Periodical sending ● On ○ Off
Image file name
Suffix ○ None
○ Date & time
● Sequence number
Sequence number clear
Interval 00 H 30 M
(MIN : 30 min. MAX : 24 hour interval)
Effective period ○ Always
● Schedule

Periodical sending

Select **On** when you want to use periodical e-mail sending.

Image file name

Type the file name of the image attached to the e-mail using up to 10 alphanumeric characters, – (hyphen) and _ (under score).
The actual image file name will be the specified image file name with a suffix and the extension .jpg.

Suffix

Select a suffix to be added to the file name used when the e-mail is sent.

None: The name of the sent file will be the image file name.
Date & time: The date & time suffix is added to the image file name.
The date & time suffix consists of the year (2 digits), month (2 digits), date (2 digits), hour (2 digits), minutes (2 digits) and seconds (2 digits), and sequential number (2 digits), thus adding a 14-digit number to the image file name.
Sequence number: A sequential number of 10 digits between 0000000001 and 4294967295 and two fixed digits 00 are added to the image file name.

Sequence number clear

Click **Clear** to reset the **Sequence number** suffix to 1.

Interval

Type the interval at which you want to send an e-mail periodically. You can set the hour (H) and minutes (M) between 30 minutes and 24 hours (one day).

Effective period

Set the period during which periodical sending will be effective.

Always: Periodical sending is always effective.
Schedule: You can specify the period during which periodical sending is effective.
Click **Schedule** and the menu for the effective period is displayed. (“Setting the Schedule — Schedule Menu” on page 78)

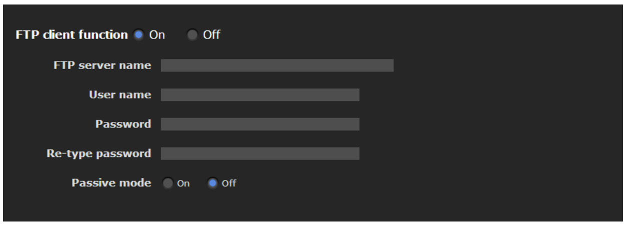
OK/Cancel

See “Buttons common to every menu” on page 32.

Sending Images to FTP Server — FTP client Menu

When you click **FTP client** in the Administrator menu, the FTP client menu appears.
Use this menu to set up for capturing and sending still images to an FTP server. Using the FTP client function, you can send an image file that has been shot and recorded linked with external sensor input or the built-in detection functions to an FTP server. An image file can also be sent periodically.
The FTP client menu consists of three tabs: **Common**, **Alarm sending** and **Periodical sending**.

Common Tab — Setting the FTP client function



FTP client function ● On ○ Off

FTP server name

User name

Password

Re-type password

Passive mode ○ On ● Off

FTP client function

To activate the FTP client function, select **On**.

Note

The frame rate and operability on the main viewer may be reduced while a file is being transmitted by the FTP client function.

FTP server name

Type either the FTP server name to upload still images using up to 64 characters, or the IP address of the FTP server.

User name

Type the user name for the FTP server using up to 64 characters.

Password

Type the password for the FTP server using up to 64 characters.

Re-type password

To confirm the password, type the same characters as you typed in the **Password** box.

Passive mode

Set whether you use the passive mode of FTP server or not when connecting to the FTP server. Select **On** to connect to the FTP server using the passive mode.

OK/Cancel

See “Buttons common to every menu” on page 32.

Alarm sending Tab — Setting the FTP client action when detecting the alarm

Set to forward an image file to a specified FTP server linked with alarm detection by the external sensor input or by the built-in detection functions.

Note

When more than two of the following settings are activated, the camera only creates two still images at the same time. A third still image cannot be created unless one of the previous two still images is sent.

e-Mail (SMTP) menu

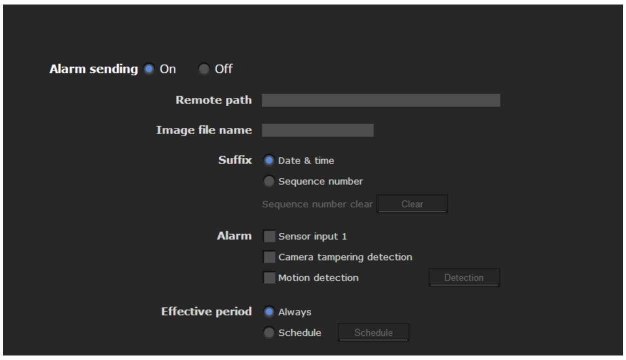
- Alarm sending tab **Alarm sending** (when file attachment is set to On).
- Periodical sending **Periodical sending**

FTP client menu

- Alarm sending tab **Alarm sending**
- Periodical sending **Periodical sending**

Trigger menu

- **Mail (SMTP)**
- **FTP Client**



Alarm sending ● On ○ Off

Remote path

Image file name

Suffix ● Date & time

○ Sequence number

Sequence number clear

Alarm ☐ Sensor input 1

☐ Camera tampering detection

☐ Motion detection

Effective period ● Always

○ Schedule

Alarm sending

Select **On** to send the image file to the FTP server linked with alarm detection.

Remote path

Type the path to the destination using up to 64 characters.

Image file name

Type the file name you want to assign to the images when sending to the FTP server. You can use up to 10 alphanumeric characters, – (hyphen) and _ (underscore) for naming.

Suffix

Select a suffix to be added to the file name.

Date & time: The date & time suffix is added to the image file name.
The date/time suffix consists of the year (2 digits), month (2 digits), date (2 digits), hour (2 digits), minute (2 digits) and second (2 digits), and sequential number (2 digits), thus adding a 14-digit number to the image file name.
Sequence number: A sequential number of 10 digits between 0000000001 and 4294967295 and a sequential 2-digit number are added to the image file name.

Tip

A sequential number added to **Date & time** and **Sequence number** is used to identify individual files created with consecutive alarm events.

Sequence number clear

Click **Clear** to reset the **Sequence number** suffix to 1.

Alarm

Select the alarm to be linked with the file to be forwarded to the FTP server.

Sensor input 1: The external sensor that is connected to sensor input of the camera I/O port.
Camera tampering detection: An alarm that is triggered if the camera detects tampering, such as direction shifting or spray.
Motion detection: The alarm detected by the motion detection function.
Click **Detection**, and the Motion detection menu is displayed to allow you to set the motion detection function (page 78).

Note

When a preset position is set in the menu of **Preset Position-Alarm linked position**, the alarm is invalid if the camera is moved to a preset position.

Effective period

Set the period during which alarm detection is effective.

Always: Alarm detection is always effective.
Schedule: You can specify the period during which alarm detection is effective.
Click **Schedule** and the menu for the effective period is displayed. ("Setting the Schedule — Schedule Menu" on page 78)

OK/Cancel

See "Buttons common to every menu" on page 32.

Periodical sending Tab — Setting the periodical FTP client activity

You can set to send image files (JPEG files) to an FTP server periodically.

Note

When more than two of the following settings are activated, the camera only creates two still images at the same time. A third still image cannot be created unless one of the previous two still images is sent.

e-Mail (SMTP) menu

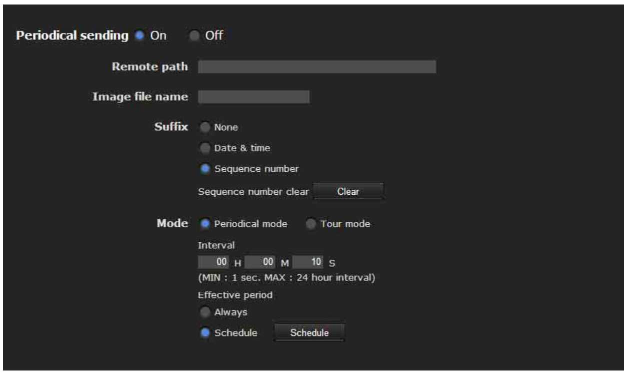
- – Alarm sending tab **Alarm sending** (when file attachment is set to On).
- – Periodical sending **Periodical sending**

FTP client menu

- – Alarm sending tab **Alarm sending**
- – Periodical sending **Periodical sending**

Trigger menu

- – **Mail (SMTP)**
- – **FTP Client**



Periodical sending ● On ○ Off
Remote path
Image file name
Suffix ○ None
○ Date & time
● Sequence number
Sequence number clear
Mode ● Periodical mode ○ Tour mode
Interval
00 H 00 M 10 S
(MIN : 1 sec. MAX : 24 hour interval)
Effective period
○ Always
● Schedule

Periodical sending

Select **On** when you want to use periodical sending.

Remote path

Type the remote path using up to 64 characters.

Image file name

Type the file name of the image sent to the FTP server using up to 10 alphanumeric characters, – (hyphen) and _ (under score).
The actual image file name will be the specified image file name with a suffix and extension .jpg.

Suffix

Select a suffix to be added to the file name sent to the FTP server.

None: The name of the sent file will be the image file name.
Date & time: The date & time suffix is added to the image file name.
The date & time suffix consists of the year (2 digits), month (2 digits), date (2 digits), hour (2 digits), minute (2 digits) and second (2 digits), and sequential number (2 digits), thus adding a 14-digit number to the image file name.
Sequence number: A sequential number of 10 digits between 0000000001 and 4294967295 and two fixed digits 00 are added to the image file name.

Sequence number clear

Click **Clear** to reset the **Sequence number** suffix to 1.

Mode

Select the periodical sending mode.

Periodical mode: An image file is sent periodically according to the specified **Interval** and **Effective period**.
Tour mode: An image file is sent each time the camera is moved to a preset position during the tour.

Interval

Type the interval at which you want to send images to the FTP server periodically. You can set the hour (H), minutes (M) and seconds (S) between 1 second and 24 hours (one day).

Note

The actual interval may be longer than the set value, depending on the image size, image quality setting, bit rate and the network environments.

Effective period

Set the period during which periodical sending is effective.

Always: Periodical sending is always effective.
Schedule: You can specify the period during which periodical sending is effective.
Click **Schedule** to display the menu for the effective period. ("Setting the Schedule — Schedule Menu" on page 78)

OK/Cancel

See "Buttons common to every menu" on page 32.

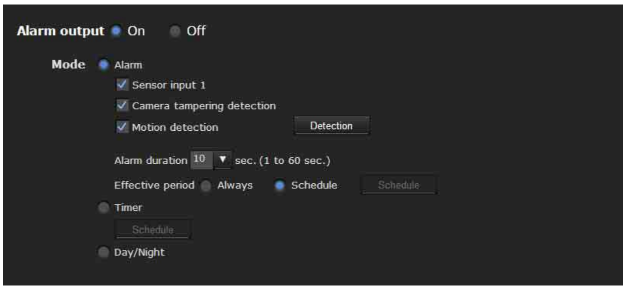
Setting the Alarm Output — Alarm output Menu (SNC-CH115/CH120/CH160/CH220/CH260/DH120T/DH160/DH220T/DH260/EB520/EM521/ZB550/ZM551)

When you click **Alarm output** in the Administrator menu, the Alarm output menu appears.
You can perform setting in this menu to control the alarm output of the I/O port on the rear of the camera linked to alarm detection, the timer and the Day/Night function.
The Alarm output menu consists of one tab: **Alarm out 1**.

Tip

For details on connection of peripheral devices to the alarm output of the I/O port, refer to the supplied Installation Manual.

Alarm out 1 Tab



Alarm output ● On ○ Off
Mode ● Alarm
☑ Sensor input 1
☑ Camera tampering detection
☑ Motion detection
Alarm duration 10 sec. (1 to 60 sec.)
Effective period ○ Always ● Schedule
○ Timer
○ Day/Night

Alarm output

To activate the alarm output function, select **On**.

Mode

Select the mode of the alarm output function.

Alarm: Controls alarm output by synchronizing it with an external sensor input or the built-in detection functions.
When **Alarm** is selected, the items **Sensor input 1, Camera tampering detection, Motion detection** and **Effective period** become active.
Timer: Controls alarm output using the timer.
Click **Schedule** and the menu for the effective period is displayed. ("Setting the Schedule — Schedule Menu" on page 78)

Day/Night: Controls the alarm output linked to the day/night function.

Sensor input 1

Select this option when you link the alarm output to an external sensor that is connected to sensor input of the camera I/O port.

Camera tampering detection

Select this option when you link the alarm output to the tampering detection, such as when the camera position is moved, or the camera is sprayed.

Motion detection

Select this option when you link the alarm output to the motion detection function.
Click **Detection**, and the Motion detection menu is displayed to allow you to set the motion detection function (page 78).

Note

In the case that the synchronized preset position is specified in **Position at alarm** in the Preset position menu, the alarm event that happens when the camera moves to the preset position will be invalid.

Alarm duration

Select the duration for which the alarm is output, between 1 and 60 sec.

Effective period

This item becomes active when **Mode** is set to **Alarm**. Set the period during which the alarm detection is effective.

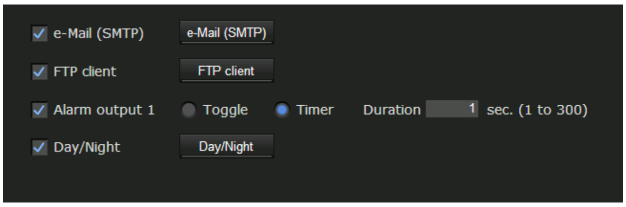
Always: Alarm detection is always effective.
Schedule: You can specify the period during which alarm detection is effective.
Click **Schedule** and the menu for the effective period is displayed. ("Setting the Schedule — Schedule Menu" on page 78)

OK/Cancel

See "Buttons common to every menu" on page 32.

Setting the Operations from the Viewer — Trigger Menu

Click **Trigger** in the Administrator menu to display the Trigger menu.
This allows you to select the activities that can be performed when the button on the Trigger panel is clicked on the main viewer.

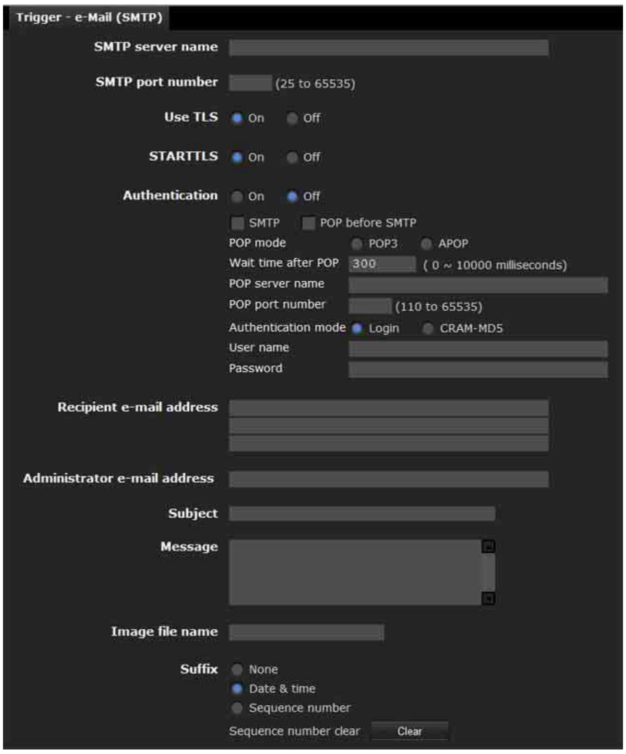


☑ e-Mail (SMTP)
☑ FTP client
☑ Alarm output 1 ○ Toggle ● Timer Duration 1 sec. (1 to 300)
☑ Day/Night

e-Mail (SMTP)

Checking this box allows you to select **e-Mail (SMTP)** on the Trigger panel in the main viewer.
By clicking **e-Mail (SMTP)** a still image of the moment you click is captured, and your e-mail with the image file attached is sent to the specified mail address.

When you click **e-Mail (SMTP)**, the **Trigger-e-Mail (SMTP)** menu is displayed. You can set the necessary options here. The setting options and setting procedures are the same as those of the e-Mail (SMTP) menu (page 69).

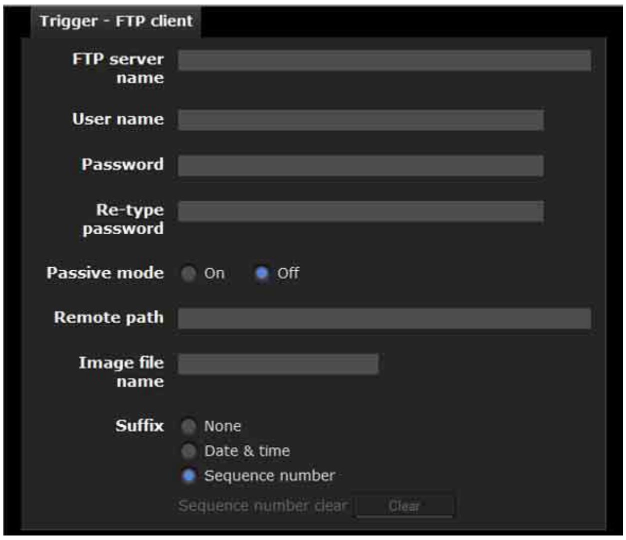


SMTP server name
SMTP port number (25 to 65535)
Use TLS ● On ○ Off
STARTTLS ● On ○ Off
Authentication ○ On ● Off
☐ SMTP ☐ POP before SMTP
POP mode ○ POP3 ○ APOP
Wait time after POP 300 (0 ~ 10000 milliseconds)
POP server name
POP port number (110 to 65535)
Authentication mode ● Login ○ CRAM-MD5
User name
Password
Recipient e-mail address
Administrator e-mail address
Subject
Message
Image file name
Suffix ○ None
● Date & time
○ Sequence number
Sequence number clear

FTP client

Checking this box allows you to select **FTP client** on the Trigger panel in the main viewer.
By clicking **FTP client** a still image of the moment you click is captured, and the image file is sent to the FTP server.

When you click **FTP client**, the **Trigger-FTP client** menu is displayed. You can set the necessary options here. The setting options and setting procedures are the same as those of the FTP client menu (page 73).



Trigger - FTP client

FTP server name
User name
Password
Re-type password
Passive mode ○ On ● Off
Remote path
Image file name
Suffix ○ None
○ Date & time
● Sequence number
Sequence number clear Clear

Alarm output 1

Checking this box allows you to select **Alarm output 1** on the Trigger panel in the main viewer. You can control the alarm output by clicking **Alarm output 1**.

Select the alarm ouput control mode from **Toggle** or **Timer**.

Toggle: Each time you run a trigger, On (short circuit) or Off (open) is switched.

Timer: When you run a trigger, the alarm output is switched to On, and will automatically set to Off after the time specified in **Duration** has elapsed.

Duration

When **Timer** is selected, specify the time for which the alarm output remains off, from 1 to 300 seconds.

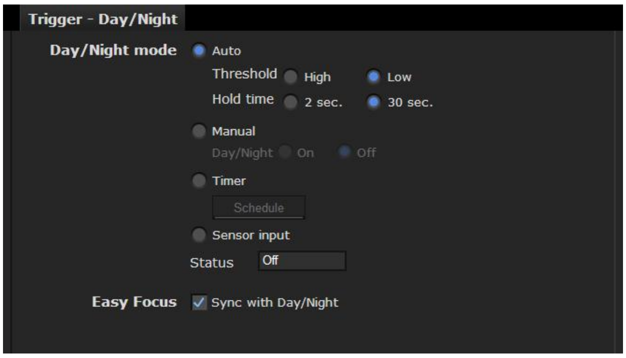
Day/Night

Checking this box allows you to select **Day/Night** on the Trigger panel in the main viewer. You can set the day/night function to On (night mode) or Off (day mode) by clicking **Day/Night**.

When you click **Day/Night**, the **Trigger-Day/Night** menu is displayed. You can set the necessary options here. The setting options and setting procedures are the same as those in the Day/Night tab of the Camera menu (page 43).

Note

The day/night function is invalid when **Day/Night** is set to **Auto** in the **Trigger-Day/Night** menu, even if you click **Trigger**.



Trigger - Day/Night

Day/Night mode ● Auto
Threshold ○ High ● Low
Hold time ○ 2 sec. ● 30 sec.
○ Manual
Day/Night ○ On ● Off
○ Timer
Schedule
○ Sensor input
Status Off
Easy Focus ☑ Sync with Day/Night

OK/Cancel

See “Buttons common to every menu” on page 32.

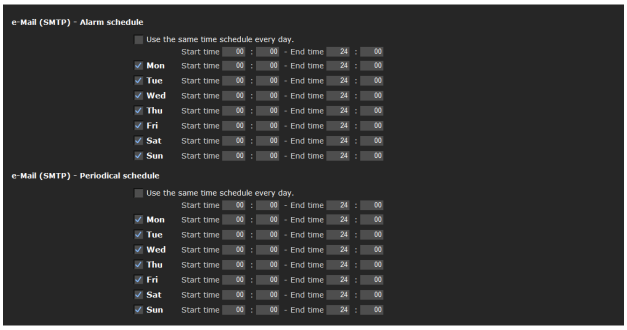
Setting the Schedule

— Schedule Menu

When you click **Schedule** in the Administrator menu, the Schedule menu appears.
The Schedule menu consists of 6 tabs.
This is the same menu as the Schedule menu that is displayed when you click **Schedule** to set the **Effective period** in the following menus.

Day/Night: Schedule in the Day/Night tab of the Camera menu
Preset position (Image 1 or 2): Schedule in the Position Tour of the Preset position menu
e-Mail: Schedule in the Alarm sending or Periodical sending tab of the e-Mail (SMTP) menu
FTP: Schedule in the Alarm sending or Periodical sending tab of the FTP client menu
Alarm out: Schedule in the Alarm out 1 tab of the Alarm output menu

Example: When setting e-Mail (SMTP) (Periodical sending) in the Schedule menu



e-Mail (SMTP) - Alarm schedule

☐ Use the same time schedule every day.

	Start time		End time	
	00	00	24	00
☑ Mon	00	00	24	00
☑ Tue	00	00	24	00
☑ Wed	00	00	24	00
☑ Thu	00	00	24	00
☑ Fri	00	00	24	00
☑ Sat	00	00	24	00
☑ Sun	00	00	24	00

e-Mail (SMTP) - Periodical schedule

☐ Use the same time schedule every day.

	Start time		End time	
	00	00	24	00
☑ Mon	00	00	24	00
☑ Tue	00	00	24	00
☑ Wed	00	00	24	00
☑ Thu	00	00	24	00
☑ Fri	00	00	24	00
☑ Sat	00	00	24	00
☑ Sun	00	00	24	00

Use the same time schedule every day

When this item is checked, the same **Start time** and **End time** are applied to all days. In that case, the **Start time** and **End time** of the day from **Mon** (Monday) to **Sun** (Sunday) cannot be input.

Mon (Monday) to Sun (Sunday)

The time period on the right of the checked day is the effective period of the schedule.

Start time, End time

Specify the start time and the end time.

OK/Cancel

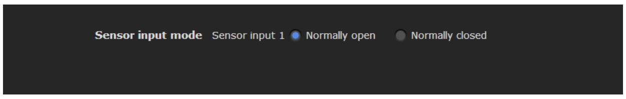
See “Buttons common to every menu” on page 32.

Setting the Sensor input/ Camera tampering detection/Motion detection

— Event detection Menu

When you click **Event detection** in the Administrator menu, the Event detection menu appears. The Event detection menu consists of the **Sensor input**, **Camera tampering detection** and **Motion detection**.
SNC-DH120/DH220/EM520/ZM550 do not support **Sensor input**.
Only supported functions are displayed.

Sensor input tab — Set the sensor input



Sensor input mode Sensor input 1 ● Normally open ○ Normally closed

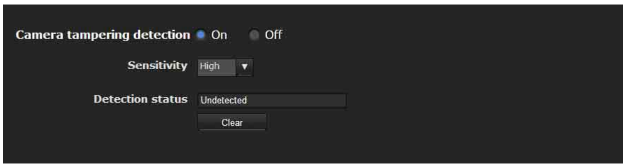
Sensor input mode

Set the direction of the detected input signal to the sensor input terminal of the camera.
Normally open: Detects the alarm when the sensor input is short-circuited.
Normally closed: Detects the alarm when the sensor input is open-circuited.

OK/Cancel

See “Buttons common to every menu” on page 32.

Camera tampering detection tab — Set the camera tampering detection



Camera tampering detection ● On ○ Off
Sensitivity High ▼
Detection status Undetected

Camera tampering detection

Select **On** to activate the function to detect camera tampering, such as direction shifting or spray. When you select **On**, you can select the Sensitivity.
Sensitivity: Set the sensitivity of camera tampering detection to **High**, **Middle** or **Low**.
Detection status: Display the tampering detection state of the time when Camera tampering detection tab is

opened. To clear the detection status, click **Clear** button.

OK/Cancel

See “Buttons common to every menu” on page 32.

Note

Activation of the camera tampering detection function may be delayed in the following conditions.

- When **Auto slow shutter** in the Camera menu-Picture tab is active.
- When Image 1 size is as follows in the Camera menu Video codec tab (SNC-CH220/CH260/DH220/DH220T/DH260)
  1920 × 1440
  1600 × 1200
  1280 × 960
  1280 × 1024
- When Cropping is set to **On** in the Camera menu Video codec tab (SNC-CH220/CH260/DH220/DH220T/DH260)

Motion detection tab — Set the motion detection

Motion detection detects moving objects in the camera image and outputs an alarm.

Notes

- Before actual use, perform an operation test and confirm that the motion detection function works correctly.
- Even when privacy masking is used, the motion detection function operates based on the images before masking is processed.
- The Motion detection menu may not be displayed depending on the function settings. To display the Motion detection menu, configure as follows.
  System menu- Installation tab (page 36)
  - **Monitor out**: **Off**. (SNC-CH115/CH120/CH160/CH220/CH260/DH120/DH120T/DH160/DH220/DH220T/DH260/EB520/EM520/EM521)
  - **Video Out**: **Off** (SNC-ZB550/ZM550/ZM551)

  Camera menu-Video codec tab (page 44)
  - **Letterbox**: **Off**.
  - **Cropping**: **Off**.
  - **SolidPTZ**: **Off**.
  - **Codec** of **Image 2**: **Off**.

When the Motion detection menu is displayed for the first time

When you click **Motion detection**, “Security Warning” is displayed.

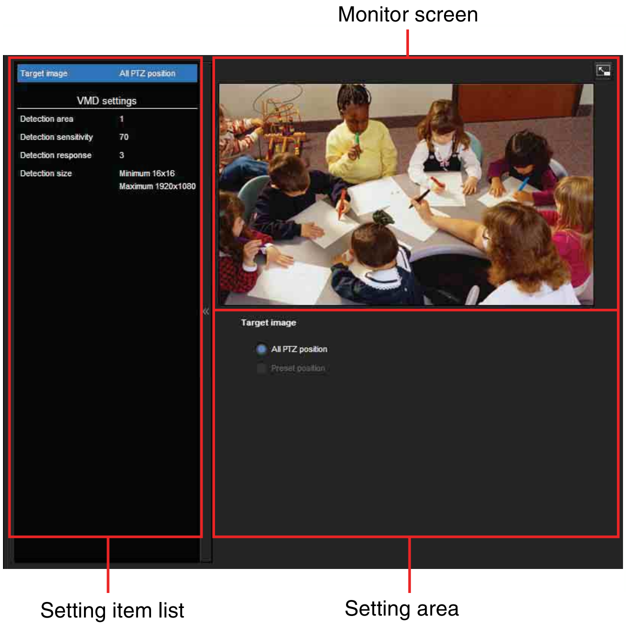
When you click **Yes**, ActiveX control is installed and the Motion detection menu is displayed.

Notes

- If **Automatic configuration** is enabled in the Local Area Network (LAN) settings of Internet Explorer, the image may not be displayed. In that case, disable **Automatic configuration** and set the Proxy server manually. For the setting of the Proxy server, consult your network administrator.
- When you install ActiveX control, you should be logged in to the computer as Administrator.
- When you are using Windows XP Service Pack 2 or later, Windows Vista or Windows 7, the information bar or “Security Warning” may appear as you click **Motion detection**. For details, see “Installing ActiveX Control” in “When using Windows XP Service Pack 2 or later” on page 8, “Installing ActiveX Control” in “When using Windows Vista” on page 11, or “Installing ActiveX Control” in “When using Windows 7” on page 14.

Setting items for motion detection

Use the settings tab to set the conditions for the motion detection function while observing camera images. This menu is the same as the settings menu displayed when you click **Detection** on Alarm transmission on the e-Mail (SMTP) menu, or on the FTP client menu.
Click the desired item in the setting item list to set the respective detection area.



Target image　All PTZ position

VMD settings

Detection area　1
Detection sensitivity　70
Detection response　3
Detection size　Minimum 16x16 Maximum 1920x1080

Target image
● All PTZ position
○ Preset position

Detection target

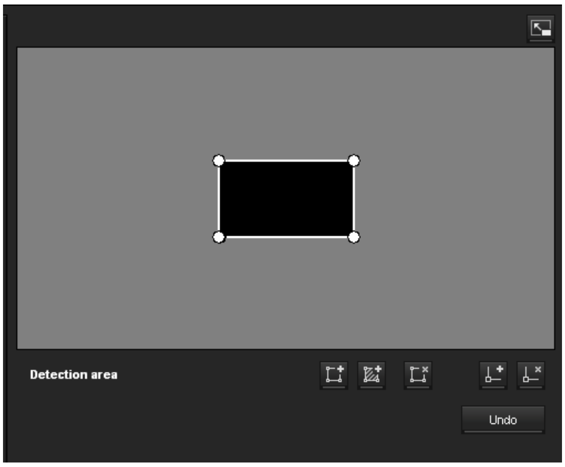
All PTZ position or **Preset position**

VMD settings (VMD: Motion detection)

Set detection area, detection response, detection response speed and detection size for Motion detection. Click the desired item in the setting item list to set the respective detection area.

Detection area

Specify the effective scope of motion detection.



Note

The frames shown on the monitor screen are not displayed on the image files sent or recorded with motion detection.

Configuring the detection area

The following procedure is used to configure the motion detection area:

1 Use the following buttons to specify the active area(s) and inactive area(s).

Add detection area

Clicking this button will add an active area window in the center of the screen.
When you place the cursor on the area, the cursor changes to a crossed arrow, which you can drag to move the area.
When you place the cursor on the vertex of the area, the cursor changes to ↔, which you can drag to move the vertex.

Add non detection area

Clicking this button will add an inactive area window in the center of the screen.
When you place the cursor on the area, the cursor changes to a crossed arrow, which you can drag to move the area.
When you place the cursor on the vertex of the area, the cursor changes to ↔, which you can drag to move the vertex.

Delete Area

Clicking this button will change the cursor to a button. While the cursor is a button, click on a part of the area to delete that area.
After the deletion, the cursor will return to its original form. To exit this operation, click this button again.

Add vertex

Clicking this button will change the cursor to a button. In that state, when you click on a part of the side of the area, a vertex is added to that point. After the addition, the cursor will return its original form. To exit this operation, click this button again.

Delete vertex

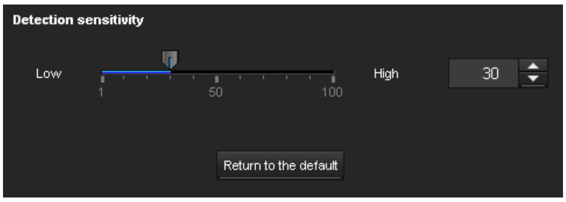
Clicking this button will change the cursor to a button. In that state, when you click on a part of the vertex of the area, the vertex added to that point is deleted. After the deletion, the cursor will return its original form. To exit this operation, click this button again.

Note

The vertex can be moved in an outward direction but cannot be moved toward the inside of an area.

Detection sensitivity

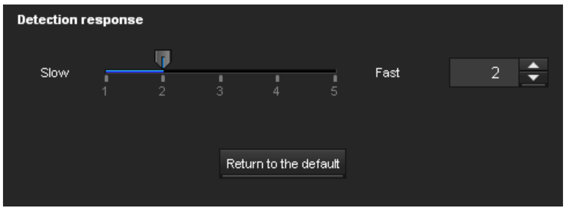
Set the sensitivity of motion detection.



A value from **1** to **100** can be specified.
Clicking **Return to the default** changes the value to the default value.

Detection response

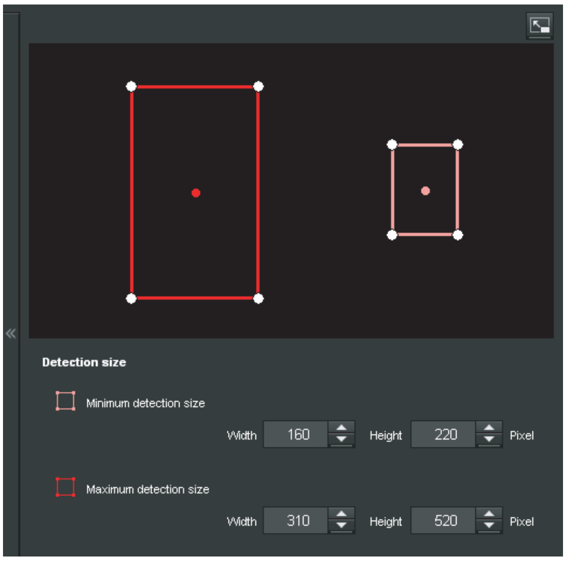
Set the response velocity of motion detection.



A value from **1** to **5** can be specified.
Clicking **Return to the default** changes the value to the default value.

Detection size

Specify the minimum detection size and maximum detection size of motion detection. To specify the detection size, you can either enter values or drag the vertexes of the area.



Detection size

☐ Minimum detection size
Width 160 Height 220 Pixel

☐ Maximum detection size
Width 310 Height 520 Pixel

The area size is measured in pixels.

- When you place the cursor on the area, the cursor changes to a crossed arrow, which you can drag to move to the minimum detection size area and maximum detection size area.
- When you place the cursor on the vertex of the area, the cursor changes to ⟷. Drag and move the vertex to adjust the detection size.

OK/Cancel

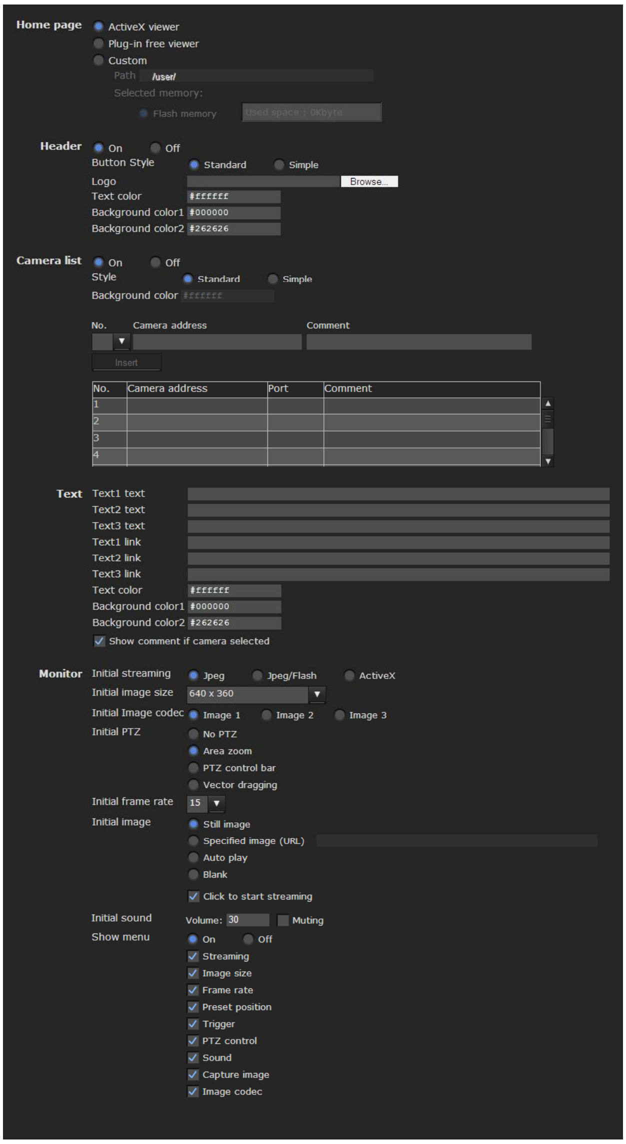
See “Buttons common to every menu” on page 32.

Configuring the Viewer

— Viewer Menu

Click **Viewer** in the Administrator menu to display the Viewer menu.
Using this menu, you can select the viewer to use and configure advanced settings.
The viewer menu consists of two tabs: **Layout** and **HTML output**.

Layout tab



Home page
● ActiveX viewer
○ Plug-in free viewer
○ Custom
Path /user/
Selected memory:
○ Flash memory Used space : 0Kbyte

Header
● On ○ Off
Button Style ● Standard ○ Simple
Logo Browse...
Text color #ffffff
Background color1 #000000
Background color2 #262626

Camera list
● On ○ Off
Style ● Standard ○ Simple
Background color #ffffff

No. Camera address Comment
Insert

No.	Camera address	Port	Comment
1			
2			
3			
4			

Text
Text1 text
Text2 text
Text3 text
Text1 link
Text2 link
Text3 link
Text color #ffffff
Background color1 #000000
Background color2 #262626
☑ Show comment if camera selected

Monitor
Initial streaming ● Jpeg ○ Jpeg/Flash ○ ActiveX
Initial image size 640 x 360
Initial Image codec ● Image 1 ○ Image 2 ○ Image 3
Initial PTZ ○ No PTZ
● Area zoom
○ PTZ control bar
○ Vector dragging
Initial frame rate 15
Initial image ● Still image
○ Specified image (URL)
○ Auto play
○ Blank
☑ Click to start streaming
Initial sound Volume: 30 ☐ Muting
Show menu ● On ○ Off
☑ Streaming
☑ Image size
☑ Frame rate
☑ Preset position
☑ Trigger
☑ PTZ control
☑ Sound
☑ Capture image
☑ Image codec

Homepage

Set the viewer or homepage to be displayed at the time of access.

ActiveX viewer: Displays the ActiveX viewer at time of access.

Plug-in free viewer: Displays the Plug-in free viewer at time of access.

Custom: Select the homepage to be displayed.
To store a homepage HTML file in the built-in flash memory, use the Custom Homepage function of SNC toolbox included in the supplied CD-ROM.
To learn how to use the Custom Homepage, see page 91.

To display your Custom homepage perform the following operation:

1. Select **Custom**.
2. Type the path of the HTML file using up to 64 characters in the text box on the right of **Path**.
3. In **Selected memory**, select the memory in which the homepage is stored.

Header

Configure the setting for the bar menu displayed at the top of the viewer screen. Select **On** to display the header, and **Off** to hide it.

Tip

Even when you select **Off**, the Administrator menu can be displayed by entering the following URL in the address box of your Web browser.
Example: When the IP address of the camera is set to 192.168.0.100

`http://192.168.0.100/<TAG>/l4/index.html`

Enter the following value to <TAG> according to the language you wish to use.

en : English
ja : Japanese
fr : French
de : German
it : Italian
es : Spanish
zh_hant : Chinese (Traditional Chinese character)
zh_hans : Chinese (Simplified Chinese character)
ko : Korean
pt : Portuguese

Button Style

Select **Standard** or **Simple**.

Logo

To set the logo image, click **Browse** and specify the image to display. The image file format that can be used is GIF, PNG, JPEG. The maximum file size is 50 KB. The uploaded image is displayed as 150 × 480 pixel. Click Delete header logo to delete the log set on the Initialize Tab of system menu (page 38).

Text color, Background color 1, and Background color 2

Specify the background colors and font color.
To specify the color, enter “#” followed by an RGB value in 6-digit hexadecimal.
The first 2 digits after # represent red, the next 2 digits green, and the last 2 digits blue. Specify the brightness for each color. 256 brightness levels are available (00-FF).

Camera list

You can register cameras in the camera list. By selecting a registered camera on the viewer screen, you can see the images from the registered camera.

Note

The camera list can be set only when Plug-in free viewer is selected as the homepage.

On/Off

Select **On** to show the camera list, and **Off** to hide it.

Style

You can configure the camera list style.

Background color

Specify the background color of the camera list. The colors are specified in the same way as those for the header.

Registering in Cameras

Specify a number on the camera list and set the IP address, port number, and comment for each camera.

Insert: Click to register a camera in the camera list.

Modify: Click to edit a selected camera list.

Delete: Click to delete a selected camera list.

Down: Click to decrement the number indicating registered camera numbers.

Up: Click to increment the number indicating registered camera numbers.

Text

Note

The camera list can be set only when Plug-in free viewer is selected as the homepage.

Text1 text, Text2 text and Text3 text

Enter the text to be displayed on the viewer screen.

Text1 link, Text2 link and Text3 link

Specify the URL of the link to assign a link to the text.

Text color, Background color 1, and Background color 2

Specify the font color of the text and background colors. The colors are specified in the same way as specifying those for the header.

Show comment if camera selected

Select this option to display comments on the viewer screen.

Monitor

Configure the setting for the camera image display part of Plug-in free viewer.

Note

The camera list can be set only when Plug-in free viewer is selected as the homepage.

Initial streaming

Set the display method for camera image for streaming.

Initial image size

Set the initial camera image size.

Initial image codec

Set the initial codec mode.

Image1: Display the image set in Image 1 of **camera menu-video codec** tab when streaming starts.
Image2: Display the image set in Image 2 of **camera menu-video codec** tab when streaming starts.
Image3: Display the image set in Image 3 of **camera menu-video codec** tab when streaming starts.

Note

Image 1 is automatically displayed on the monitor screen if the selected camera from the **Camera list** is as follows:
– **Image2:** Codec of Image 2: **Off**.
– **Image3:** Image 3 function is not installed, or Codec of Image 3: **Off**.
You can check the settings for codec in Camera menu-**Video codec** tab.

Initial PTZ

Set the pan/tilt/zoom operation modes for streaming.

No PTZ: PTZ is not available when streaming starts.
Area zoom: Area zoom is available when streaming starts.
PTZ control bar: Display the PTZ operation bar when streaming starts.
Vector dragging: Vector drag is available when streaming starts.

Initial frame rate

Set the initial camera image frame rate.

Initial image

Set what to initially display on the camera image display area.

Still image: JPEG still images are acquired from the camera and displayed at start-up.
Specified image (URL): Specify a still image of your choice by URL at start-up.
Auto play: Run to start playback.
Blank: No display at start-up.
Click to start streaming: By ticking this when **Still image** or **Specified image** is selected, you can start play by clicking on the image.

Tip

If the menu display is **Off**, **Blank** cannot be selected.

Initial sound

Set the initial volume for when streaming starts. Check **Muting** for muting sound.

Note

This setting is valid only when **SNC ActiveX viewer** is selected for **Streaming method** from **Setting** of the Plug-in free viewer control bar. However, this unit is not equipped with audio functions.

Show menu

Set whether to show or hide operation buttons at the bottom of the camera image area.
Select **On** to display the menu, select **Off** to hide the menu.
When **On** is selected, the items below can be set:

Streaming: Displays the setting options of **Streaming**, if it is checked.
Image size: Displays the setting menu of **Image size**, if it is checked.
Frame rate: Displays the setting menu of **Frame rate**, if it is checked.
Preset position: Displays the setting menu of **Preset position**, if it is checked.
Trigger: Displays the setting options of **Trigger**, if it is checked.
PTZ operation: Displays the setting menu of **PTZ operation** mode, if it is checked.
Sound: Displays the setting menu of **Sound**, if it is checked.

Note

This unit is not equipped with audio functions.

Capture image: Displays the **Capture image** button, if it is checked.

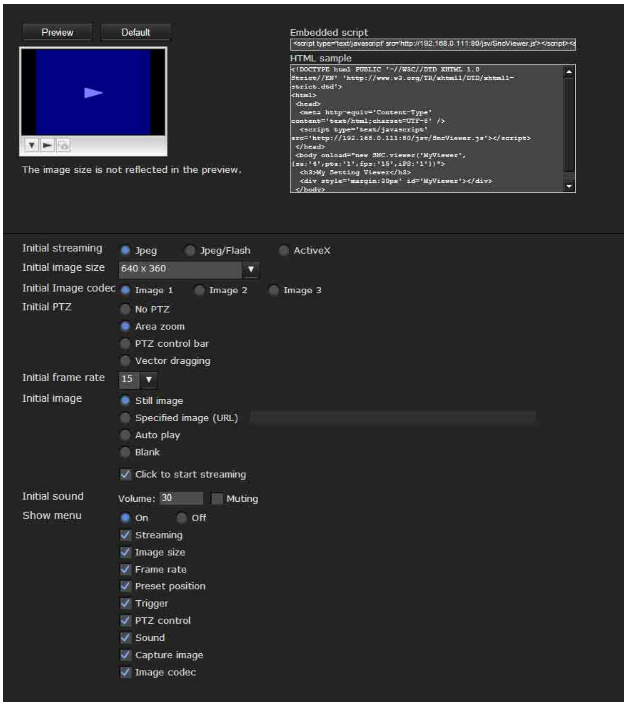
Image codec: Displays the setting menu of **Image codec**, if it is checked.

OK/Cancel

See "Buttons common to every menu" on page 32.

HTML output tab

If the monitor is for personal use, this tab can be used to output sample source for HTML and script.
For details on the setting, refer to "Monitor" of the Layout tab.



The image size is not reflected in the preview.

Embedded script

```
<script type='text/javascript' src='http://192.168.0.111:80/jsv/SncViewer.js'></script>
```

HTML sample

```
<!DOCTYPE html PUBLIC '-//W3C//DTD XHTML 1.0
Strict//EN' 'http://www.w3.org/TR/xhtml1/DTD/xhtml1-
strict.dtd'>
<html>
 <head>
  <meta http-equiv='Content-Type'
content='text/html;charset=UTF-8' />
  <script type='text/javascript'
src='http://192.168.0.111:80/jsv/SncViewer.js'></script>
 </head>
 <body onload="new SNC.viewer('MyViewer',
{ss:'4',pts:'1',fps:'15',iPS:'1'})">
  <h3>My Setting Viewer</h3>
  <div style='margin:30px' id='MyViewer'></div>
 </body>
```

Initial streaming ● Jpeg ○ Jpeg/Flash ○ ActiveX

Initial image size 640 x 360

Initial Image codec ● Image 1 ○ Image 2 ○ Image 3

Initial PTZ
○ No PTZ
● Area zoom
○ PTZ control bar
○ Vector dragging

Initial frame rate 15

Initial image
● Still image
○ Specified image (URL)
○ Auto play
○ Blank

☑ Click to start streaming

Initial sound Volume: 30 ☐ Muting

Show menu ● On ○ Off
☑ Streaming
☑ Image size
☑ Frame rate
☑ Preset position
☑ Trigger
☑ PTZ control
☑ Sound
☑ Capture image
☑ Image codec

Monitor

Displays a preview.

Preview: Displays a preview on the monitor based on the current settings.

Default: Resets the setting to that set in Viewer - Layout tab.

Note

The selected image size is not used for the preview screen.

Embedded script

Displays the sample source for script.

HTML sample

Displays the sample source for HTML.

Others

This section explains how to use the application software and commands, including the supplied CD-ROM.

Using the SNC toolbox

Explains the functions except those of the Network tab in SNC toolbox.

To install SNC toolbox, to assign an IP address and to set the network, see “Assigning the IP Address to the Camera” on page 6 in “Preparation”.

Notes

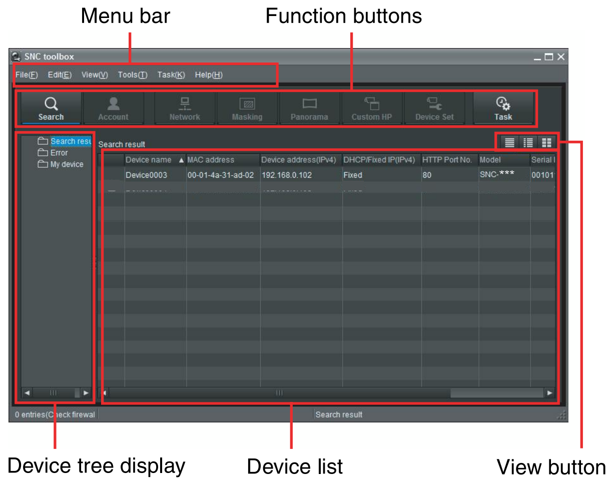
- SNC toolbox may not operate correctly if you use a personal firewall or antivirus software in your computer. In this case, disable the software.
- If you are using Windows XP Service Pack 2 or later, Windows Vista or Windows 7, disable the Windows Firewall function. Otherwise SNC toolbox will not operate correctly. For the setting, see “Configuring Windows Firewall” in “When using Windows XP Service Pack 2 or later” on page 9, “Configuring Windows Firewall” in “When using Windows Vista” on page 12 or “Configuring Windows Firewall” in “When using Windows 7” on page 14.
- The model on sale in China does not support the SSL function.

Starting SNC toolbox

Select **All Programs** from the Start menu of Windows, then select **SNC toolbox** and **SNC toolbox** in sequence. SNC toolbox starts.
The main screen appears. SNC toolbox detects cameras connected to the local network and lists them on the Network tab window.

When you are using Windows Vista, message “User Account Control – An unidentified program wants access to your computer” may appear. In this case, click **Allow**.

How to use SNC toolbox



Device name ▲	MAC address	Device address(IPv4)	DHCP/Fixed IP(IPv4)	HTTP Port No.	Model	Serial
Device0003	00-01-4a-31-ad-02	192.168.0.102	Fixed	80	SNC-***	00101

Menu bar

All functions can be selected from here.

File (F) menu

Import: Reads the Device list file (CSV format).
Export: Outputs the Device list in a CSV format file.
Close: Exits SNC toolbox.

Edit (E) menu

Cut: Cuts off a device or folder.
Copy: Copies a device or folder.
Paste: Pastes a device or folder.
Select All: Selects all devices in the Device list.
Add Folder: Creates a folder.
Add Device Entry: Manually registers a device.
Modify Device Entry: Edits the device information.
Remove: Removes a device from a folder.
Delete: Deletes a device or folder.

View (V) menu

Status Bar: Switches show/hide of status at the bottom of the screen.
Normal: Displays detailed information on a device.
Snapshot small: Displays detailed information on a device with a small thumbnail.
Snapshot large: Lists devices with large thumbnails.
Column Setting: Displays the setting screen for the items to display on the list.

Tools (T) menu

Search: Searches again for devices.
Device Account: Displays the management screen for user names and passwords related to the device.
Network Setting: Displays the screen for modifying the address settings for the selected device.
Device Setting: Displays the settings screen for the selected device.

Privacy Masking: Displays the Privacy Masking screen.

Panorama Creator: Displays the Panorama Creator screen.

Not available with this product.

Custom Homepage: Displays the Custom Homepage screen.

Firmware Upgrade: Displays the Firmware Upgrade screen.

Initialize Device:

- **Reboot:** Restarts the device.
- **Factory Default:** Initializes the device to factory default.
- **Backup setting data:** Backs up setting data on a computer.
- **Restore setting:** Restore the backup setting data to the device.

Device Homepage: Connects to the device.

Device Log:

- **System Log:** Obtains system log for the device.
- **Access Log:** Obtains access log for the device.

Tool Log: Obtains SNC toolbox log.

Option: Displays the screen for modifying SNC toolbox settings.

Task (K) menu

Task List: Displays the Task list screen.

Add Task: Displays the Task Wizard screen.

Modify Task: Displays the Task editing screen.

Delete Task: Deletes task.

Help (H) menu

Version: Displays SNC toolbox version information.

Function buttons

Function buttons are used for updating lists and displaying dialog.

Search

Updates the Device list in the search result.

Account

Sets the administrator for each device.

Network

Displays the **Network Setting** dialog.

Masking

Displays the **Privacy Masking** dialog.

Panorama

Displays the **Panorama Creator** dialog.

Not available with this product.

Custom HP

Displays the **Custom Homepage** dialog.

Setting

Displays the settings screen for the device.

Task

Displays the **Task List** dialog.

Device tree view

This function allows you to customize folders. The registration details of My device can be displayed in tree format.

Search result folder

When this folder is selected, devices in the same segment detected at time of startup or by **Search** are displayed in the Device list.

Error folder

When this folder is selected, devices registered in My device folder that can not be connected are displayed in the Device list.

Also, if a registered device is not found on the network, it will also be registered in this folder.

My device folder

When this folder is selected, devices in the Search result folder or registered manually are displayed in the Device list.

Device list

Devices registered in the folder selected at Device tree view are displayed in a list.

Device name

Displays individual device names.

Status (Only for Error folder and My device folder)

You can check the current connection status.

MAC address

You can check the MAC address of the device.

Device address

You can check the IP address of the device.

Port No., HTTP Port No.

You can check the port number of the device.

DHCP/Fixed IP

Displays whether the IP address of the selected device is DHCP or fixed IP.

Client certificate

Displays the name of the client certificate used for SSL function.

Model
Displays the model name.

Serial No.
Displays the serial number.

Version No.
Displays the version of firmware.

Admin name
Displays the administrator user name.

IP Address of NIC (Search result folder only)
Displays the IP address of the NIC (Network Interface Card) detected.

Tips

- A camera with which SSL communication has been performed will show 🔒 on the left side of its IP address.
- The model on sale in China does not support the SSL function.

View button

You can change the display format of the Device list (page 88) .

Registering in My device

The device tree has three folders by default: **Search result**, **Error** and **My device**.
The **Search result** folder and **Error** folder are fixed, so you cannot edit the content or rename the folder.
The **My device** folder can be renamed, and you can add, delete and move folders.

Search result folder
Displays devices detected by search.

Error folder
Displays devices that are not connected.

My device folder
You can sort and manage devices using any folder.

Adding a folder

1. Select the parent folder to which you want to add a folder.

2. Right click the mouse and select **Add Folder** from the displayed menu.
A folder is added. Enter a folder name of your choice.

Registering a device

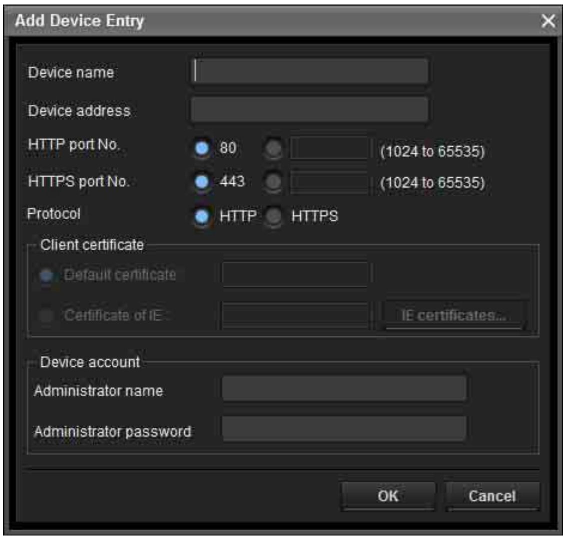
To register a device, follow the procedure below:

- Registering by **Add Device Entry** dialog
- Registering by drag & drop
- Registering by copy & paste

Registering by Add Device Entry dialog

1. Select the folder to register the device.

2. Right click the mouse and select **Add Device Entry** from the displayed menu.
The **Add Device Entry** dialog appears.



3. Enter the following items:
Device name: Enter a device name of your choice.
Device address: Enter the address of the device to register.
HTTP port No.: Normally, 80 should be selected. When setting a value other than 80, select the textbox and enter a port number.
HTTPS port No.: Normally select 443. When setting a value other than 443, select the textbox and enter a port number.
Protocol: Select communication protocol **HTTP** or **HTTPS**.
Client certificate: Set when using the client authentication of the SSL function.
Activated when **HTTPS** is selected.
Default certificate: Select **Default client certificate** of the **Network** tab from **Option** in the **Tools** menu.
Certificate of IE: Press the **IE certificates...** button, then select the certificate registered in the Internet Explorer.
Device account: Enter the user name and password of the administrator who will access the device in the **Administrator name** field and **Administrator password** field, respectively.

4 Click **OK** to finish registration.

Registering by drag & drop

To add a device, select a device from the Device list in the Search result folder, and drag & drop to the folder to register it in.

Registering by copy & paste

Select a device from the Device list in the Search result folder and right click the mouse. Select **Copy** from the displayed menu (or select **Copy** from the **Edit** menu). Next, select the folder to register in and right click the mouse. Select **Paste** from the displayed menu.

Renaming the device/folder

Select the folder or device to rename and right click the mouse. Select **Rename** from the displayed menu. The device/folder name is highlighted. Enter the new name.

Deleting a device/folder

Select the device/folder to be deleted from the Device list or Device tree and right click the mouse. Select **Delete** from the displayed menu (or select **Delete** from the **Edit** menu).

Moving a device/folder

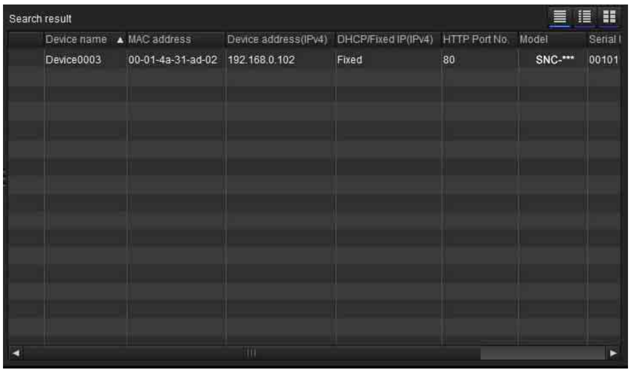
You can move a device/folder by following either of the methods below:

- Select a device/folder from the Device list or Device tree and drag & drop in the folder to move it to, which will move the device/folder.
- Select a device/folder from the Device list or Device tree and right click the mouse. Select **Cut** from the displayed menu (or select **Cut** from the **Edit** menu). Next, select the folder to move to and select **Paste**.

Changing the Device list display method

Details display

Select **Normal** from the **View** menu or click ☰ to set to the details display.

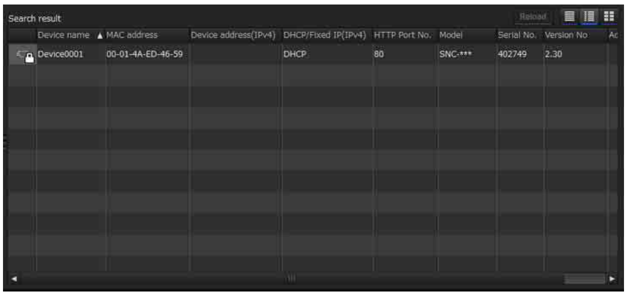


Search result

Device name ▲	MAC address	Device address(IPv4)	DHCP/Fixed IP(IPv4)	HTTP Port No.	Model	Serial
Device0003	00-01-4a-31-ad-02	192.168.0.102	Fixed	80	SNC-***	00101

Details display with thumbnails

Select **Snapshot(S)** from the **View** menu or click ☰ to set to the details display with thumbnails.

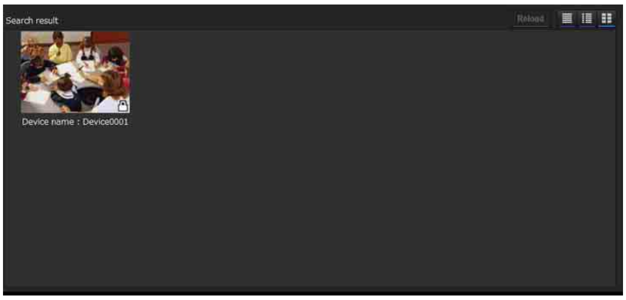


Search result

Device name ▲	MAC address	Device address(IPv4)	DHCP/Fixed IP(IPv4)	HTTP Port No.	Model	Serial No.	Version No	Ac
Device0001	00-01-4A-ED-46-59		DHCP	80	SNC-***	402749	2.30	

Display with large thumbnails

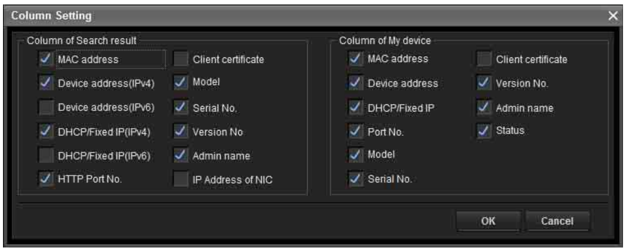
Select **Snapshot(L)** from the **View** menu or click ⊞ to set to display with large thumbnails.



Device name : Device0001

Modifying the items to show on list

Select **Column setting** from the **View** menu to display the “Column Setting” dialog.


Column Setting
Column of Search result
Column of My device
OK
Cancel

☑ MAC address
☐ Client certificate
☑ Device address(IPv4)
☑ Model
☐ Device address(IPv6)
☑ Serial No.
☑ DHCP/Fixed IP(IPv4)
☑ Version No
☐ DHCP/Fixed IP(IPv6)
☑ Admin name
☑ HTTP Port No.
☐ IP Address of NIC

☑ MAC address
☐ Client certificate
☑ Device address
☑ Version No.
☑ DHCP/Fixed IP
☑ Admin name
☑ Port No.
☑ Status
☑ Model
☑ Serial No.

Check the items you want to display and remove the checks from items you want to hide.
Click **OK** after making the changes. The new setting is reflected on the list and the display returns to the main screen.

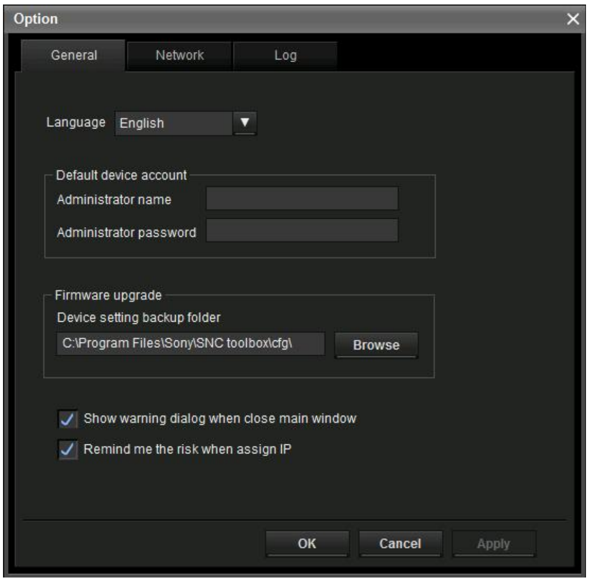
Updating thumbnail images

To display the thumbnail, select the camera of the thumbnail you wish to update and click **Reload** to display the current camera image as the thumbnail.

Setting SNC toolbox options

Select **Option** from the **Tools** menu to display the “Option” dialog. This dialog consists of three tabs: **General**, **Network** and **Log**.

General tab


Option
General
Network
Log
Default device account
Administrator name
Administrator password
Firmware upgrade
Browse
OK
Cancel
Apply

Language English

Device setting backup folder C:\Program Files\Sony\SNC toolbox\cfg\

☑ Show warning dialog when close main window

☑ Remind me the risk when assign IP

Language

Set language.

Default device account

Set the initial values of user name and password for the administrator accessing the device for each device.

Firmware Upgrade

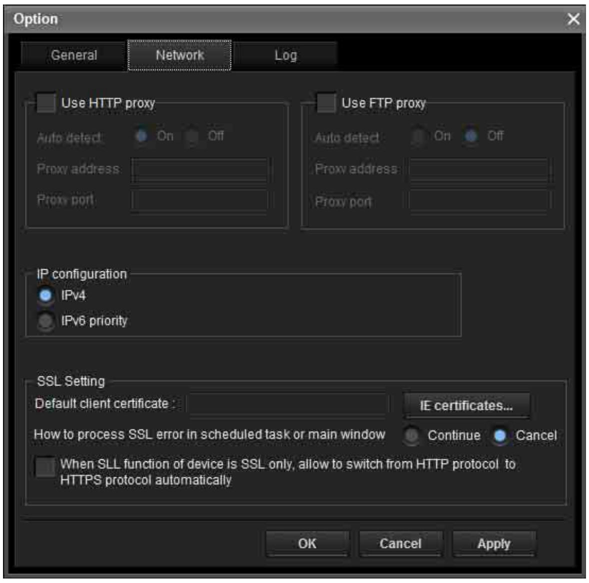
Make settings related to firmware upgrades.

Device setting backup folder: Set the backup folder for the setting file when an upgrade is performed. Click **Browse** to display the folder selection dialog and specify the folder in which to save the file.

Show warning dialog when closing main window: Select to display the warning message.

Remind me the risk when assigning IP: Select to display the warning message.

Network tab


Option
General
Network
Log
Proxy address
Proxy port
IP configuration
SSL Setting
IE certificates...
OK
Cancel
Apply

☐ Use HTTP proxy
Auto detect ● On ○ Off

☐ Use FTP proxy
Auto detect ○ On ● Off

● IPv4
○ IPv6 priority

Default client certificate :

How to process SSL error in scheduled task or main window ○ Continue ● Cancel

☐ When SLL function of device is SSL only, allow to switch from HTTP protocol to HTTPS protocol automatically

Configure the HTTP proxy and FTP proxy.
When using HTTP proxy, check **Use HTTP proxy**.
When using FTP proxy, check **Use FTP proxy**.
To auto-detect the proxy server, select **On** for **Auto detect**.
If you are not auto-detecting the proxy server, select **Off** for **Auto detect**, and enter the proxy address and proxy port number.

IP configuration

Select the IP address used for the Search result folder.

IPv4: Uses IPv4.

IPv6 priority: Uses IPv6. Uses IPv4 if IPv6 is not selected.

SSL Setting

Configure the SSL setting.

Default client certificate: Enter the client certificate to use.

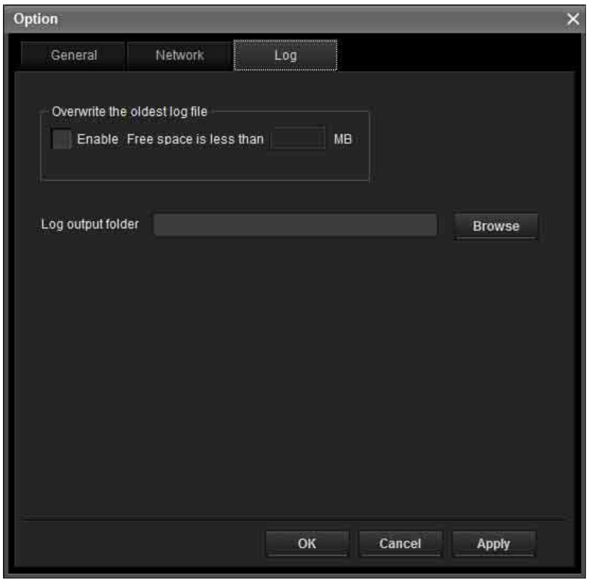
How to process SSL errors in scheduled task or main window: Select **Continue** or **Cancel**.

When SSL function of device is SSL only, allow to switch from HTTP protocol to HTTPS protocol automatically: Check this box if necessary.

Notes

- When you have changed the SSL setting, restart the SNC toolbox.
- The model on sale in China does not support the SSL function.

Log tab


Option
General
Network
Log
Overwrite the oldest log file
☐ Enable Free space is less than
MB
Log output folder
Browse
OK
Cancel
Apply

Overwrite the oldest log file

To set the size of the log file, check **Enable** and specify the minimum required space for a log file.

Log output folder

Click **Browse** to display the folder selection dialog. Specify the folder to save the log.

Using Privacy Masking — Masking a Camera Image

The Privacy Masking function of SNC toolbox allows you to mask parts of the camera image to be transmitted.

1 Select the camera to set a privacy mask from the Device list.

2 Click **Masking**.

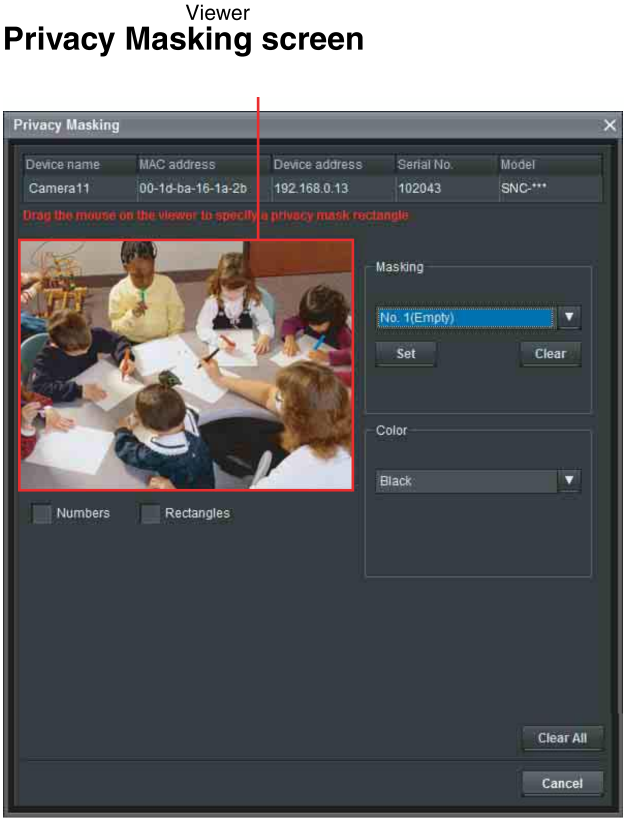
Using the Privacy Masking

The Privacy Masking screen enables you to set the privacy mask position.
Click **Masking** to display the Privacy Masking screen.

Note

When the camera setting is as follows, the Privacy Masking cannot be set.
– Cropping (page 44) is **On**.
– SolidPTZ (page 44) is **On**.

Privacy Masking screen


Viewer
Privacy Masking
Masking
No. 1(Empty)
Set
Clear
Color
Black
☐ Numbers
☐ Rectangles
Clear All
Cancel

Device name	MAC address	Device address	Serial No.	Model
Camera11	00-1d-ba-16-1a-2b	192.168.0.13	102043	SNC-***

Drag the mouse on the viewer to specify a privacy mask rectangle

Viewer

A live image of the camera is displayed. You can specify the position of the privacy mask in this area.

Number

The set mask number is displayed in the Viewer.

Frame

Display the frame of the set mask to distinguish the mask area when the set mask is overlapped.

Privacy mask setting section

Allows you to set or delete the privacy mask.
You can set up to four privacy masks.

Set: Register the area specified on the viewer as a privacy mask area.
Click **Set** and the portion of the viewer image is masked with the privacy mask. The color of the privacy mask is that selected with the **Color** drop-down list.

Note

If the mask area is close to the bottom of the image, the background at the bottom may still be visible.

Clear: Click to delete the privacy mask.

Color
Specify the color or mosaic of privacy masks. This setting is common to every privacy mask.
The selectable colors are as follows:
Black, **Gray1**, **Gray2**, **Gray3**, **Gray4**, **Gray5**, **Gray6**, **White**, **Red**, **Green**, **Blue**, **Cyan**, **Yellow**, **Magenta**

Clear all
Click to delete all privacy masks simultaneously.

Setting a privacy mask

To set a privacy mask in a desired position, do the following:

1 Specify the privacy mask area by dragging the mouse on the viewer.

2 Select the color or mosaic of the mask from the **Color** drop-down list.

Note

The color is common to every privacy mask. The color last selected is applied.

3 Select the desired privacy mask number in the privacy mask setting section, and then click **Set** of the corresponding number.
The mask is displayed on the viewer.

Using the Custom Homepage — Setting the customized homepage

The Custom Homepage function of the SNC toolox allows you to store the homepage that you have created in the camera and watch it.

Notes on creating the homepage

When you are creating the homepage, note the following points.
- The file name should be typed using up to 24 characters including the extension.
- The file size of the homepage should be 2.0 MB or less.
- To see the created homepage, set the **Homepage** in the Layout tab from viewer menu.

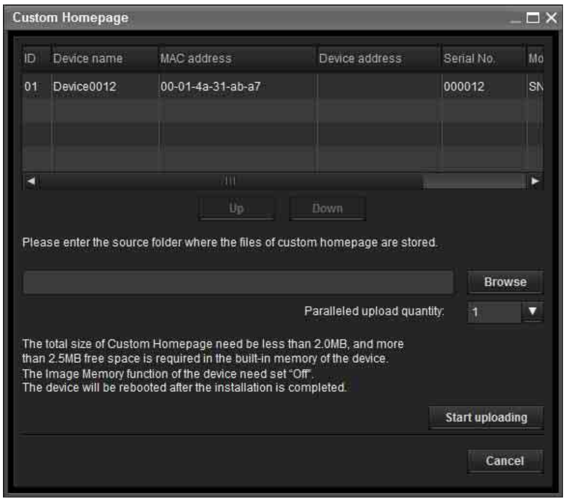
Uploading the homepage to the camera using the Custom Homepage

1 Select the device to upload from the Device list.
You can select multiple devices at the same time.

2 Click the **Custom Homepage**.
The "Custom Homepage" dialog opens.
Read the notes carefully.

Note

If you cannot establish communications with the camera using the proxy server being used, connect the camera to the local network and run the Custom Homepage without using the proxy server.



ID	Device name	MAC address	Device address	Serial No.	Mo
01	Device0012	00-01-4a-31-ab-a7		000012	SN

Please enter the source folder where the files of custom homepage are stored.

The total size of Custom Homepage need be less than 2.0MB, and more than 2.5MB free space is required in the built-in memory of the device.
The Image Memory function of the device need set "Off".
The device will be rebooted after the installation is completed.

3 Type the path in which your homepage is stored.

4 Click **Start uploading**.
Uploading of the homepage file to the camera starts.

5 Click **Cancel** to exit the program.

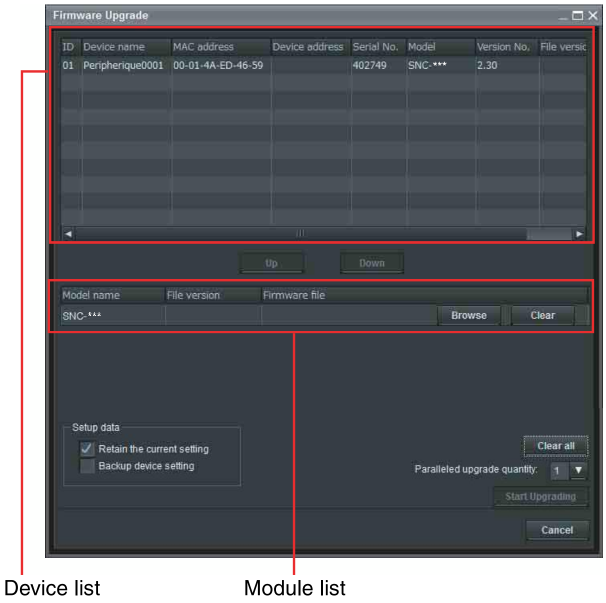
Using the Firmware Upgrade

Using the Firmware Upgrade function of the SNC toolbox allows you to upgrade the firmware of the device.

Starting the Firmware Upgrade

1 Select the device to upgrade its firmware from the Device list.
You can select multiple devices at the same time.

2 Right click the mouse. Click **Firmware Upgrade** from the displayed menu.
The Firmware Upgrade screen is displayed.


Firmware Upgrade
ID
Device name
MAC address
Device address
Serial No.
Model
Version No.
File versic
Up
Down
Model name
File version
Firmware file
Browse
Clear
Setup data
☑ Retain the current setting
☐ Backup device setting
Clear all
Paralleled upgrade quantity
Start Upgrading
Cancel
Device list
Module list

ID	Device name	MAC address	Device address	Serial No.	Model	Version No.	File versic
01	Peripherique0001	00-01-4A-ED-46-59		402749	SNC-***	2.30	

Model name	File version	Firmware file
SNC-***		

Paralleled upgrade quantity: 1

Tip

The Firmware Upgrade screen can also be displayed using the following method:

- Select **Firmware Upgrade** from the **Tools** menu.

Device list

Select the device to upgrade.
A progress bar is displayed when upgrading is in process.
The status field shows current status.

Module list

To display the dialog, click the **Browse** button on the right side of the model to upgrade (listed in the module list). Select the target SVU file from the dialog.
You can select one file for each model.

Upgrading

1. Set the order of devices perform upgrade using **Up** and **Down**.
2. Click **Browse** and select an upgrade file for each model.
3. Select how many devices to upgrade in **Paralleled upgrade quantity**.
4. To back up the device setting, check **Backup device setting**.

Tip

You can specify the backup folder under **Device setting backup folder**, on the **General** tab in **Option** from the **Tools** menu.

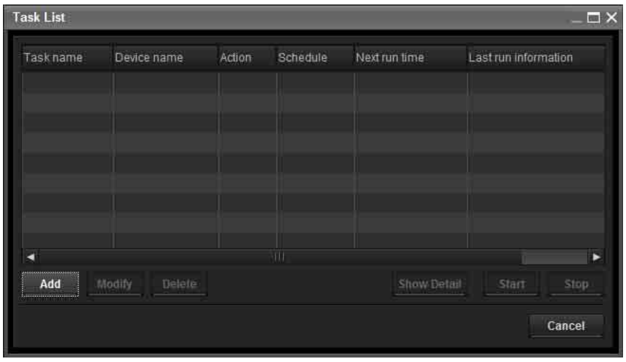
5. Click **Start upgrading**.
   Upgrading starts.

Notes

- To stop upgrading, click **Stop upgrading**.
  To protect some devices, during the process of upgrading, upgrading cannot be canceled.
- Do not turn off the power until the device restarts after upgrading.

Using the Schedule Task

You can specify the time or interval to change the Device setting or perform Firmware upgrade.
Click **Task** to display the Task List, which shows a list of scheduled executable tasks.


Task List
Task name
Device name
Action
Schedule
Next run time
Last run information
Add
Modify
Delete
Show Detail
Start
Stop
Cancel

Task List

Displays the list of scheduled executable tasks.

Add

Displays the Task Wizard.

Modify

You can edit a task.

Delete

You can delete a task.

Show Detail

Displays the detailed information on a task.

Start

This reserves a task.

Stop

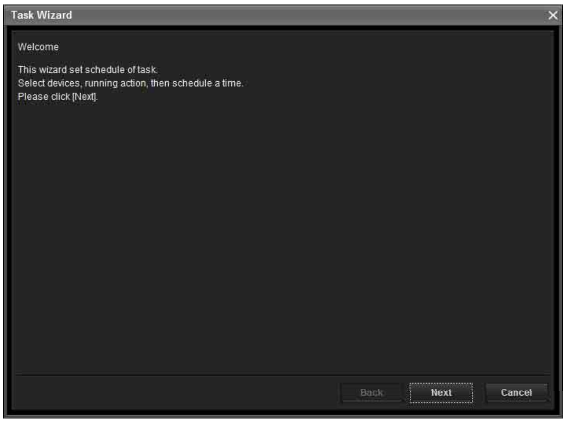
You can cancel a task reservation.

Cancel

Closes the Task List.

Creating a task

1 Click **Add**.
Displays **Task Wizard**.

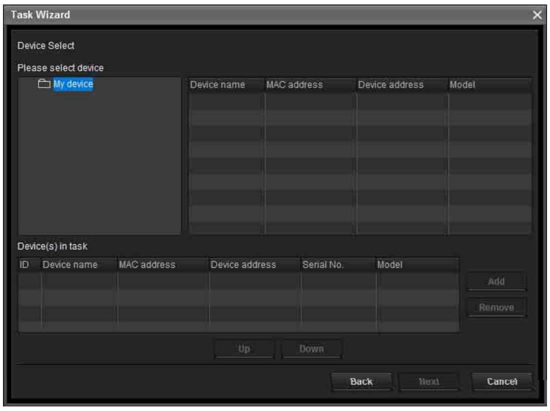

Task Wizard
Back
Next
Cancel

Welcome

This wizard set schedule of task.
Select devices, running action, then schedule a time.
Please click [Next].

2 Click **Next**.

3 Select a device to which the task is assigned.
A list of devices registered in My device is displayed. Select the device you want to assign the task to from the My device list, and register in Device(s) in task list.

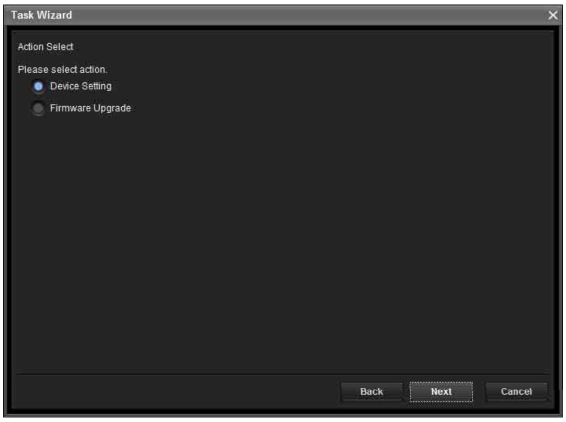

Task Wizard
Device Select
Please select device
My device
Device name
MAC address
Device address
Model
Device(s) in task
ID
Device name
MAC address
Device address
Serial No.
Model
Add
Remove
Up
Down
Back
Next
Cancel

My Device: Display a list of cameras registered in My devices.
Device(s) in task: Display a list of devices set to execute a task.
Add: Register a device in Device(s) in task.
Remove: Removes a device from Device(s) in task.
Up/Down: Changes the order of devices in Device(s) in task.

4 Click **Next**.

5 Select the task action.

Select **Device Setting** or **Firmware Upgrade**.


Task Wizard
Back
Next
Cancel

Action Select

Please select action.
● Device Setting
○ Firmware Upgrade

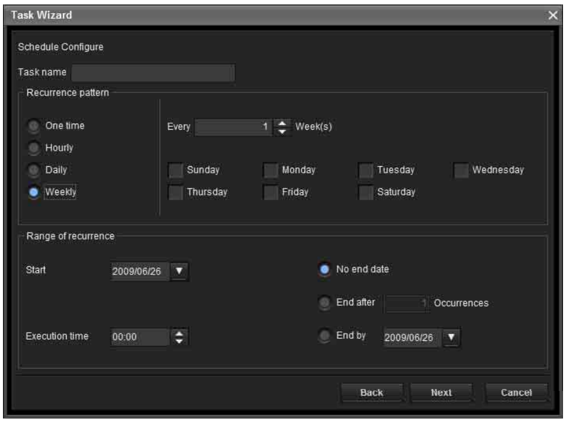
6 Click **Next**.

For Device Setting:
Edit the value for the setting you wish to change.
See “Device Setting” on page 94 for changing the values.
Click **Next** to display the confirmation screen for setting change. Check to see if the setting is correct. If correction is needed, click **Back** to return to the previous screen to redo the setting.

For Firmware Upgrade:
Set the firmware for the device you want to upgrade.
See “Using the Firmware Upgrade” on page 91 for setting firmware.

7 Click **Next**.

8 Set the schedule.


Task Wizard
Back
Next
Cancel

Schedule Configure

Task name

Recurrence pattern
○ One time
○ Hourly
○ Daily
● Weekly

Every 1 Week(s)
☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday
☐ Thursday ☐ Friday ☐ Saturday

Range of recurrence
Start 2009/06/26
Execution time 00:00
● No end date
○ End after 1 Occurrences
○ End by 2009/06/26

Task name
Name the task.

Recurrence pattern

Specify the operation interval.

Onetime: Runs the task once.

Hourly: Specify the operation frequency in units of hours. (Possible set value: 1 to 99)

Daily: Specify the operation frequency in units of days. (Possible set value: 1 to 99)

Weekly: Specify the operation frequency in units of weeks and days of the week. (Possible set value: 1 to 99)

Range of recurrence

Specify the starting date and time, and the end date and time.

Start: Set the starting date.

Execution time: Set the starting time.

No end date: This setting does not set an end date.

End after: Specify the number of times to execute the operation.

End by: Set the end date.

9. Click **Next**.
   Check the setting when the final confirmation screen for task setting is displayed.
   If correction is needed, click **Back** to return to the previous screen to redo the setting.

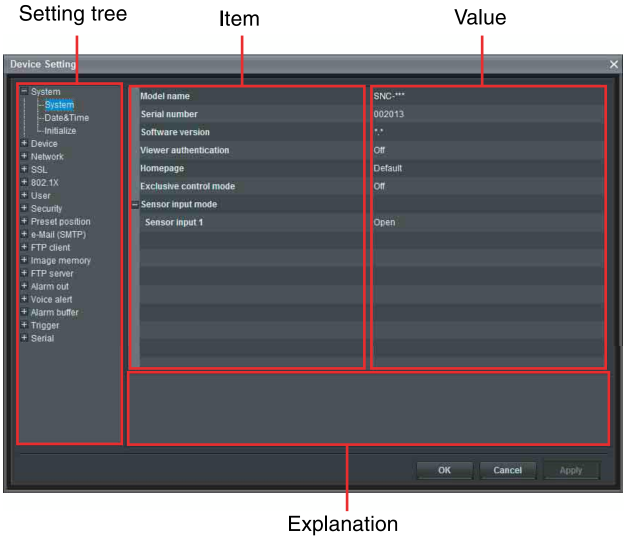
10. Click **Finish**.

Configuring the device setting

You can configure advanced settings for a device on the Device Setting screen.

When you select a device(s) on the Device list and select **Device Setting** from the **Tools** menu, or when you right click on the device selection screen and click **Device Setting** in the displayed menu, the Device Setting screen is displayed.

Display sample:



Model name: SNC-***
Serial number: 002013
Software version: *.*
Viewer authentication: Off
Homepage: Default
Exclusive control mode: Off
Sensor input mode
Sensor input 1: Open

Setting tree

All settings are sorted into categories. Click + to display the subcategories under a category. Click – to hide the subcategories.

Select a subcategory to display setting items on the right side of the screen.

Item

Displays the setting items. Select a line to change its value.

Value

Displays the value of an item. Select or enter a value to change the value.

Explanation

Displays the range of value for setting and supplementary explanations.

OK

Apply the setting and close the Device Setting screen. The main screen of SNC Toolbox is displayed.

Cancel

Close the Device Setting screen without changing the setting. The main screen of SNC Toolbox is displayed.

Apply

Apply the setting.

Other settings

See the relevant pages in “Administrating the Camera” when configuring the settings.

Setting items		**Pages to refer to in “Administrating the Camera”**
System		“Configuring the System — System Menu” on page 34
	System	“System Tab” on page 34
	Date	“Date & time Tab” on page 35
	Superimpose	“Superimpose Tab” on page 35
	Installation	“Installation Tab” on page 36
	Initialization	“Initialize Tab” on page 38

Setting items		Pages to refer to in “Administrating the Camera”
Device		“Setting the Camera Image — Camera Menu” on page 39
	Common	“Common Tab” on page 39
	Picture	“Picture Tab” on page 41
	Day/Night	“Day/Night Tab” on page 43
	Video codec	“Video codec Tab” on page 44
	Streaming	“Streaming Tab” on page 48
Network		“Configuring the Network — Network Menu” on page 49
	Network	“Network Tab” on page 49
	QoS	“QoS Tab” on page 50
	IP address notification	“Dynamic IP address notification Tab — Notifying the IP Address” on page 52
SSL		“Setting the SSL function — SSL Menu” on page 54
	Setting	“Common tab” on page 54
	CA certificate	“CA certificate tab — Adding the CA certificate for client authentication” on page 56
802.1X		“Using the 802.1X Authentication Function — 802.1X Menu” on page 59
	Common	“Common Tab — Basic setting of 802.1X authentication function” on page 59
	Client certificate	“Client certificate Tab” on page 60
	CA certificate	“CA certificate Tab” on page 61
User		“Setting the User — User Menu” on page 65
Security		“Setting the Security — Security Menu” on page 66
Preset position		“Saving the Camera Position and Action — Preset position Menu” on page 66
	Tour (position)	“Preset tour Tab — Setting a position tour” on page 68

Setting items		Pages to refer to in “Administrating the Camera”
e-Mail (SMTP)		“Sending an Image via E-mail — e-Mail (SMTP) Menu” on page 69
	Common	“Common Tab — Setting the e-Mail (SMTP) Function” on page 69
	Alarm sending	“Alarm sending Tab — Setting the e-mail sending mode when detecting the alarm” on page 71
	Periodical sending	“Periodical sending Tab — Setting the periodical e-mail sending mode” on page 72
FTP client		“Sending Images to FTP Server — FTP client Menu” on page 73
	Common	“Common Tab — Setting the FTP client function” on page 73
	Alarm sending	“Alarm sending Tab — Setting the FTP client action when detecting the alarm” on page 73
	Periodical sending	“Periodical sending Tab — Setting the periodical FTP client activity” on page 74
Alarm Output		“Setting the Alarm Output — Alarm output Menu (SNC-CH115/CH120/CH160/CH220/CH260/DH120T/DH160/DH220T/DH260/EB520/EM521/ZB550/ZM551)” on page 75
	Alarm out 1	“Alarm out 1 Tab” on page 75
Trigger		“Setting the Operations from the Viewer — Trigger Menu” on page 76
Event detection		“Setting the Sensor input/Camera tampering detection/Motion detection — Event detection Menu” on page 78
	Camera tampering detection	“Camera tampering detection tab — Set the camera tampering detection” on page 78

Device restart and initialization

You can restart and initialize (restore factory default) a selected device. Multiple devices can be selected simultaneously for restart and initialization.

Restarting a device

Click **Tools**, **Initialize Device** and **Reboot** in this order on the menu bar to restart the device.

Initializing a device

Click **Tools**, **Initialize Device** and **Factory Default** in this order on the menu bar to initialize the device (restore factory default).

Using the SNMP

This unit supports SNMP (Simple Network Management Protocol). You can read MIB-2 objects using software such as SNMP manager software. This unit also supports the coldStart trap which occurs when the power is turned on or the unit restarts, and the Authentication failure trap, which informs of any illegal access using SNMP.
Using CGI commands, you can set the community name and access limitation, host to send traps, and some MIB-2 objects. To allow these settings, you need authentication by the camera administrator.

1. Inquiry Commands

You can check the SNMP Agent settings using the following CGI commands.

<Method>
GET, POST
<Command>
http://ip_adr/snmpdconf/inquiry.cgi?inqjs=snmp
(JavaScript parameter format)
http://ip_adr/snmpdconf/inquiry.cgi?inq=snmp
(standard format)

With the above inquiry, you can obtain the following setting information. The following explains the setting information using the inqjs=snmp (JavaScript parameter) format.

```
var sysDescr=“Model name”                          ...①
var sysObjectID=“1.3.6.1.4.1.122.8501”             ...②
var sysLocation=“”                                 ...③
var sysContact=“”                                  ...④
var sysName=“”                                     ...⑤
var snmpEnableAuthenTraps=“1”                      ...⑥
var community=“1,r,public,0.0.0.0,v2c”             ...⑦
var community=“2,r,private,192.168.0.101,v2c”      ...⑧
var trap=“1,public,192.168.0.101,v2c”              ...⑨
```

① Describes the case of “mib-2.system. sysDescr.0”. You cannot change this parameter.

② Describes the case of “mib-2.system. sysObjectID.0”. You cannot change this parameter.

③ Describes the case of “mib-2.system. sysLocation.0”. This field is used to describe information on the location of this camera. Nothing is set at the factory.

④ Describes the case of “mib-2.system. sysContact.0”. This field is used to describe information on the administrator of this camera. Nothing is set at the factory.

⑤ Describes the case of “mib-2.system. sysName.0”. This field is used to describe the administration node of this camera. Nothing is set at the factory.

⑥ Describes the case of “mib-2.snmpEnable AuthenTraps.0”. This example shows when “1” (enable) is set. In this setting, a trap occurs when there is an authentication failure. When “2” (disable) is set, no authentication failure trap occurs.

⑦ Describes the community attributes. This example shows the identification number “ID=1”, the community name “public”, and enables read from any IP address (0.0.0.0).

⑧ Describes the community attributes, similar to ⑦. This example shows the identification number ID=2, the community name “private”, and enables reading by SNMP request packet from the host “192.168.0.101”.

⑨ Describes the attributes to send a trap. This example shows the identification number “ID=1”, the community name “public”, and enables sending of traps to the host having the IP address “192.168.0.101”.

2. Setting Commands

The unit supports the following SNMP setting commands.

<Method>
GET, POST
<Command>

```
http://ip_adr/snmpdconf/snmpdconf.cgi?
<parameter>=<value>&<parameter>=...&...
```

First, perform the settings of the following parameters.

1) sysLocation=<string>
Set the case of “mib-2.system.sysLocation.0” in the <string> position. The maximum length of <string> is 255 characters.

2) sysContact=<string>
Set the case of “mib-2.system.sysContact.0” in the <string> position. The maximum length of <string> is 255 characters.

3) sysName=<string>
Set the case of “mib-2.system.sysName.0” in the <string> position. The maximum length of <string> is 255 characters.

4) enaAuthTraps=<value>
Set the case value of “mib-2.snmp.snmp EnableAuthenTraps.0” in the <string> position. Type “1” (enable) or “2” (disable) in the <value> position.

5) community=<ID>,r,<communityName>,<IpAddressString>
Set the community attributes. <ID> describes the setting identification number (1 to 8) <communityName> describes the community name to be set, and <IpAddressString> describes the IP address of the host you allow access (0.0.0.0 for any host).
Example: To allow reading by any host in the “private” community and having the ID number “2”.
community=2,r,private,0.0.0.0

6) trap=<ID>,<communityName>,<IpAddressString>
Set the attributes to send traps to. <ID> describes the setting identification number (1 to 8), <communityName> describes the community name to send traps to, and <IpAddressString> describes the IP address of the host to send traps to.
Example: To specify the destination of traps as the public community and the ID number “1”.
trap=1,public,192.168.0.101

7) delcommunity=<ID>
This parameter is used to delete the previous community setting. <ID> describes the community setting identification number (1 to 8).

8) deltrap=<ID>
This parameter is used to delete the previous setting of the host to send traps to. <ID> describes the trap setting identification number (1 to 8).

When you have finished changing the SNMP setting information using the above parameters 1) to 8), check the changed settings using an inquiry command. If the changed settings are OK, restart the SNMP using the following CGI command.

SNMP restart command

<Method>
GET, POST
<Command>

```
http://ip_adr/snmpdconf/snmpdconf.cgi?
snmpd=restart
```

Glossary

ActiveX control

A component program object that can be used with web pages or other application programs. The technology for creating ActiveX control is part of software developed by Microsoft.

AES

Abbreviation for Advanced Encryption Standard. This is the next-generation standard of encryption, adopted by the U.S. government.

Bandwidth control

To limit the amount of transmitted data.

Bit rate

The rate at which data bits are transmitted.

CA (Certificate Authority)

A private authority that issues and controls digital certificates to be used for authentication regarding network access.

Capture

To send audio and video converted to digital data from video devices to a computer.

Codec

Software/hardware for coding/decoding video and audio data.

Common name

A URL to be typed in the browser when you access a website employing SSL (Secure Sockets Layer) protocol with the security function. Access is successful after the URL of the website is verified as matching the server's common name.

Contrast

The difference in tone between the lightest and darkest portions of the image.

Default gateway

Device that can be used to access another network.

DHCP server

Acronym for Dynamic Host Configuration Protocol server. The IP address of a terminal without an individual IP address can be automatically distributed by the Dynamic Host Configuration Protocol (DHCP). The DHCP server assigns the IP addresses to the terminals.

Digital certificate

An electronic certificate that a CA (Certificate Authority) attests that a public key to cancel a secret code is issued by an authentic publisher.

Digital zoom

Zooming in/out function of an image without using an optical zooming function.

DNS server

Acronym for Domain Name System server. As an IP address required for connecting to the device on an IP network is numerical and difficult to remember, the Domain Name System was established. A domain name is alphabetic and is easier to remember. When a client computer uses a domain name to connect to another computer, it asks a DNS server to translate the name into the corresponding IP address. The client computer can then obtain the IP address of the computer to be connected.

EAP method

Acronym for Extensible Authentication Protocol. This is a protocol extended from PPP (Point-to-Point Protocol) and having an authentication function.

EAP-TLS authentication

TLS is an authentication protocol of the EAP methods using Transport Layer Security. By using digital certificates and other methods, EAP-TLS prevents data falsification, eavesdropping and spoofing.

Frame rate

The number of frames of a moving image that can be transmitted per a second.

FTP client

Software to be used for accessing the FTP server.

FTP server

A server to be used to transfer files via a network.

HTTP port

A port used to communicate between the web server and the web client, such as a web browser.

H.264

An image compression format. The standard written by the JVT (Joint Video Team) a joint organization for standardization (composed of ISO and ITU-T. H.264), is capable of transmitting video data at a higher compression rate than that of MPEG4.

IP address

Acronym for Internet Protocol Address. An individual IP address is basically assigned to each piece of equipment connected to the Internet.

JPEG

Acronym for Joint Photographic Expert Group. The still image compression technology or standards of ISO (International Organization for Standardization) and ITU-T. Popularly used as an image compression format on the Internet, etc.

MAC address

A network address that uniquely identifies each LAN card.

MPEG4

Acronym for Moving Picture Experts Group4. One of the MPEG standards for image compression format aiming to transmit images at a high compression rate with lower picture quality.

Multicast

The class D IP address assigned between 224.0.0.0 and 239.255.255.255. Using this IP address enables you to transmit the same data to multiple equipment.

Network address

The portion that identifies the local network (subnet) in an IP address.

Network bandwidth

Bit rate that can be used for networking.

NTP server

Network time server that transmits and receives time information over the networks.

Passive mode

The mode whereby a client FTP allows TCP connection for data transmission to the FTP server.

POP server

A server for storing incoming e-mail until you have read it.

Primary DNS server

One of the DNS servers that can first reply to a request by connected devices or other DNS servers.

Proxy server

A server or software that acts as an intermediary between a local network and the Internet so that it can connect to the Internet in place of a computer on a local network.

PSK

Abbreviation for Pre-Shared Key. This is a shared key to make an encryption key, used with TKIP in WPA encryption standard. PSK sometimes means an authentication system using a key previously shared.

QoS

Enter a value in the DSCP (Differential Service Code Point) field included in the IP header to control communication service quality.

RADIUS client

RADIUS (Remote Authentication Dial-in User Service) is an authentication and accounting protocol managing network access, and a RADIUS client is a party that accesses the network.
In Internet connecting service, a Network Access Server (NAS) such as that for dial-up and broadband access server is a RADIUS client. In a wireless LAN system, a wireless LAN access point is a RADIUS client.

Saturation

The degree to which a color is pure.

Secondary DNS Server

Subsidiary DNS server used when a primary DNS server cannot be used.

Shared secret

A character string to be used for mutual authentication between a RADIUS server and RADIUS client.

Sharpness

The degree to which the boundary of two portions is clearly distinguished.

SLOC

Abbreviation for Security Link over Coax.
SLOC is a technology that enables analog composite video images and digital IP signals to be sent simultaneously using just one coaxial cable. It was developed by Intersil Corporation.

SMTP server

A server for sending or relaying e-mail messages between servers.

SNMP

A protocol for monitoring and managing network devices.

SSL

Acronym for Secure Sockets Layer. This is a protocol developed by Netscape Communications Corporation to be used for communications of encrypted data on the Internet.

Subnet mask

32-bit stream used to distinguish the subnet address from an IP address.

TCP

Acronym for Transmission Control Protocol. A standard protocol used for Internet connection. Compared with the other protocol, UDP, TCP provides reliable communication but communication speed is slower.

TKIP

Acronym for Temporal Key Integrity Protocol. This is used in WPA encryption for a wireless LAN. TKIP provides high security since it changes encryption keys based on PSK during on-going communication.

UDP

Acronym for User Datagram Protocol. A standard protocol used for Internet connection. Compared with the other protocol, TCP, UDP can transmit data faster, but reliable communication is not guaranteed.

Unicast

Transmission of data to specified equipment on a network by specifying a single address.

WPA

Acronym for Wi-Fi Protected Access. This is an encryption standard for a wireless LAN. It provides higher security than the conventional WEP (Wired Equivalent Privacy) standard. In WPA, TKIP is used for the encryption method, and PSK and EAP are used for the authentication protocol.

WPA2

Abbreviation for Wi-Fi Protected Access 2. WPA2 is a standard with which AES (Advanced Encryption Standard) is added to WPA.

802.1X

A standard that performs user authentication and dynamic key generation and traffic on a LAN.

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